MEASURING BENEFITS FROM ASSET MANAGEMENT

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A Very Quick Refresher on Asset Management






Identify and Inventory What Assets You Have

How Many, What Type, Location, Condition, Useful Life Remaining, Replacement Cost & Any Other Helpful Attributes

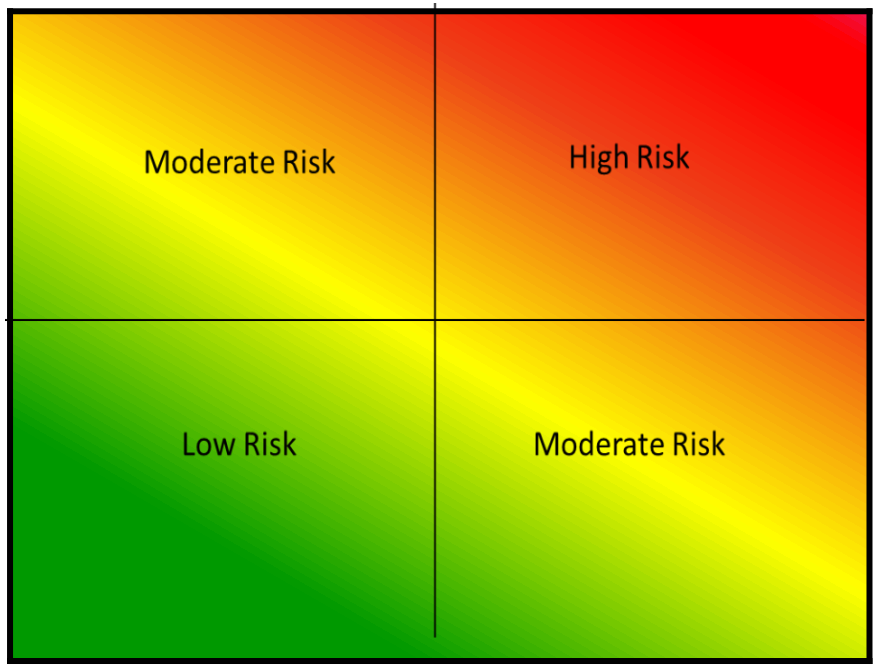

Current State of the Assets

Understand What You Want Your Assets to Do

How Well Are Your Assets Doing That?

Are You Meeting Customer Expectations?

Level of Service



Determine Which Assets Are Critical to Sustained Operations

How likely are the assets to fail?
What are the consequences if they do?

Criticality

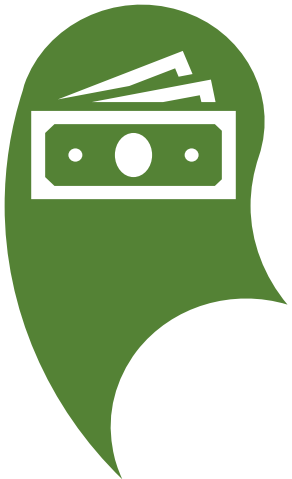
Consider the Assets Over Their Entire Life

When is the Best Time to Intervene?
What Interventions Are Possible at Each Stage?
What's the Most Efficient Way to Intervene?

Life Cycle Costing

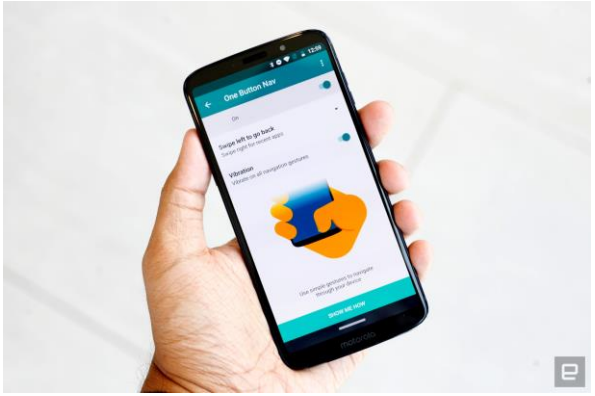
Ensure Long-Term Funding for Sustainability

How Much Money Do You Need?
Where Will it Come From?



Long-Term Funding

These 5 Core Components Make up the Asset Management Program



Asset Management

is a thought process, not a computer program.

Digital tools are there to help you, whatever way works best for you.


Asset Management is a
Journey not a
Destination

Asset Management Requires Some Input of Resources…

…So, Why Would We Want To Do It?

We want benefits!!!

Who would we want to benefit?

Elected Leader/Body/Owner

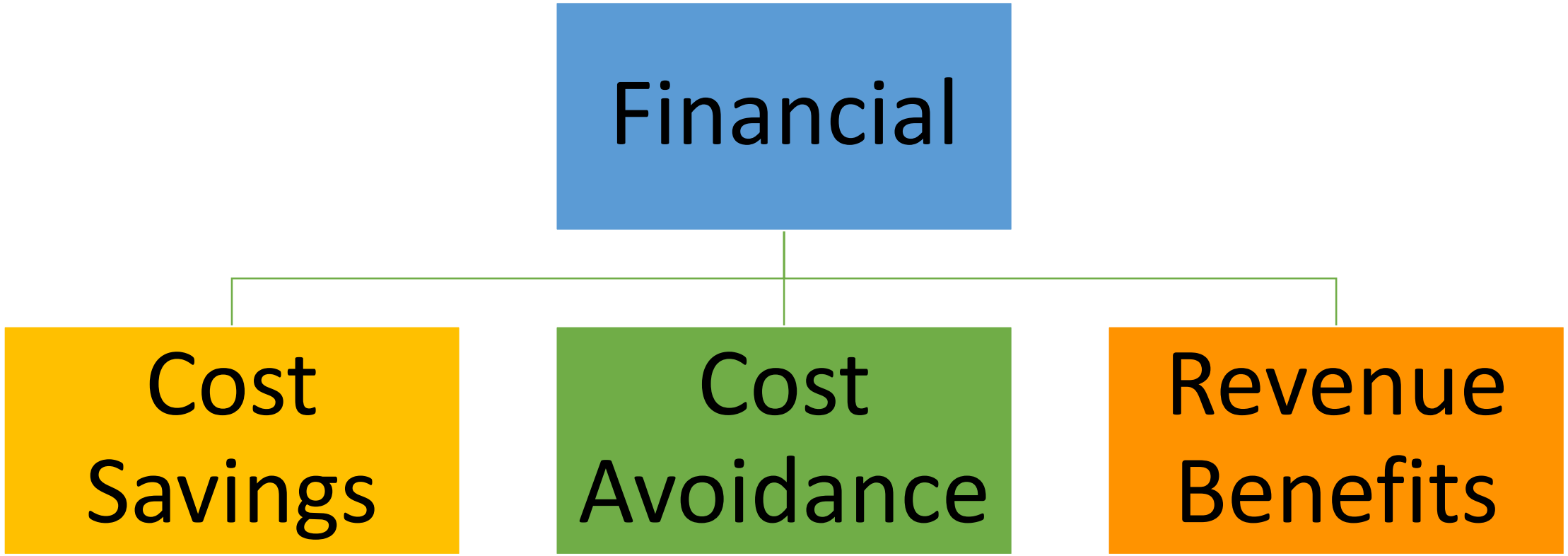
Customers

Employees

What Kind of Benefits Would We Want?

Triple Bottom Line

What do Financial Benefits Look Like?



Examples

Doing something in a less expensive way (either in the short term or long term)

Changing lubricant so that fewer lubrication changes are needed over the life of the asset.

Improving the energy efficiency of mechanical equipment to reduce the overall energy costs. Savings results from lower energy bills.

Cost Savings

Ensuring that the correct spare parts are available, in the correct quantities and stored properly. Ensuring that spare parts are not replaced in storage when not needed. Savings results from reducing overall spare parts costs.

Examples

Not having to do the activity at all. This is “avoiding costs,” rather than “reducing costs.”

Making an adjustment to how pipes are replaced that reduces the overall number of breaks. Breaks that do not have to be fixed, because they never happened are avoided costs. (Fixing breaks in a cheaper way would be a cost savings.)

Taking an action or set of actions that mean that a capital project doesn’t have to be completed. One example, reducing use or improving real water loss so a new source is not required.

Cost Avoidance

Addressing the underlying cause of a failure so that a repeated repair is eliminated. e.g., an unrestrained joint that is restrained.

Examples

Taking action that increases the revenue into the utility.

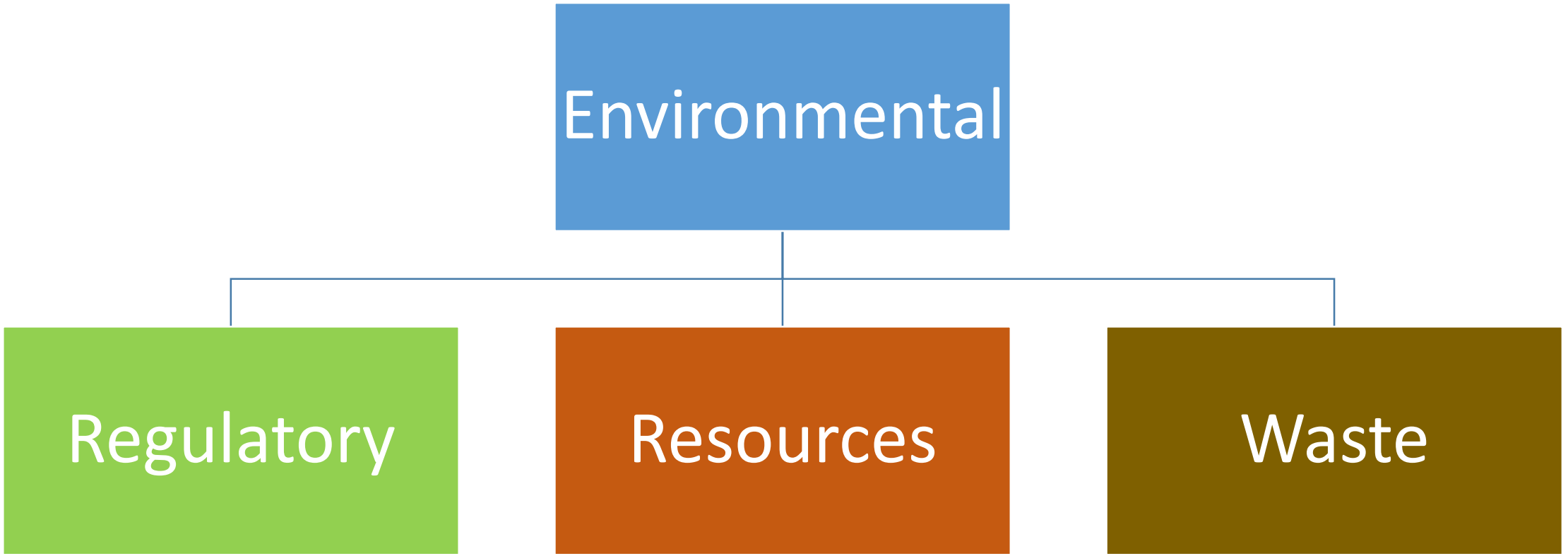
Addressing apparent loss issues so that additional revenue comes into the utility.

Customer satisfaction is increased and the elected leaders feel confident that the utility has provided good information regarding needed revenues, so rate increase is approved and customers pay.

Repairing or replacing water meters so that they read correctly or better fit the needs of the installation, resulting in additional revenue.

Revenue Benefits

What do Environmental Benefits Look Like?



Examples

Taking action that increases the regulatory compliance (decreases the non-compliance) of the utility or improves compliance beyond the required limit.

Improving or changing a process to remove more of a contaminant than required by regulation, particularly a carcinogenic compound. (e.g., reducing arsenic concentration from 10 ug/L to 5 ug/L)

Regulatory

Removing a secondary contaminant to address the needs of customers, although it is not strictly required by the regulations. (For example, removing iron in the water to improve taste and address potential for laundry stains.)

Improving the disinfection process to reduce TC or EC violations.

Examples

Improving the overall use of resources, particularly related to water and energy.

Decreased use of water resources related to reducing pipe breaks or reducing the quantity of water used by customers.

Reduction in carbon footprint by switching to a renewable form of energy use, either in part or in full. (e.g., switch to energy from biofuels, solar, wind)

Decreasing the use of other resources, such as lubricants, by reducing the amount of lubrication needed. e.g., This could be related to determining 1/year is sufficient to meet the needs, rather than 2/year.

Resources

Examples

Reducing the amount or type of waste product produced.

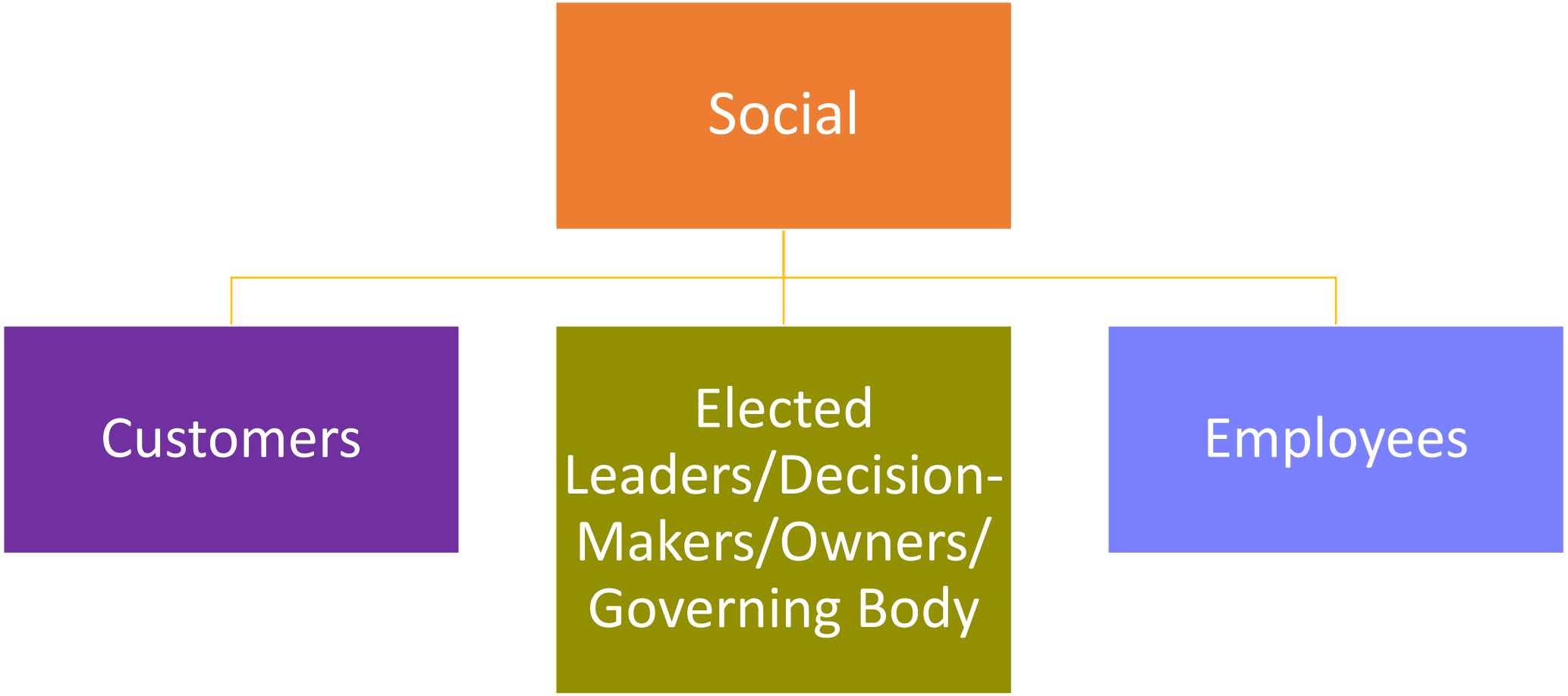
Reduction in drinking water leaks reaching waterways (to reduce chlorine impacts on fish and wildlife.)

Reduction in the production of waste products as a byproduct of water or wastewater treatment.

Decreasing the number of wastewater overflows to water ways or onto land.

Waste

What do Social Benefits Look Like?



Examples

Actions taken to improve the service to customers.

Changing a process or procedure to create a reduction in number of customer complaints overall or complaints of a particular type (such as low pressure, poor taste, odors, etc.)

Fewer service disruptions as a result of adding or improving isolation valves so fewer customers need to be shut off during a repair.

Customers

Fewer blocked roads or road cuts as a result of synchronizing line replacement and road re-paving or as a result of actions to reduce pipe breaks.

Examples

Actions taken to improve the overall governance of the utility

Providing better justification for projects to improve the confidence in the requests for funding and the ability of the decision-makers to approve the request.

Fewer complaints at public meetings as a result in improved customer satisfaction in the utility.

Elected Leaders/Decision-Makers/Owners/ Governing Body

Better understanding of the water or wastewater process overall and better understanding of the long term nature of the funding cycle. More supportive of the utility and its employees as a result.

Examples

Actions taken to improve the overall work environment for employees. Employees are often a forgotten part of the asset management program, but benefits for employees are a critical component.

More planned, less reactive work to improve the ability to plan the employee day rather than running from crisis to crisis.

Fewer safety incidents as a result of a focus on safety in the workplace and a decision to track safety incidents as a level of service goal.

Increased ability to affect overall work and projects and opportunities for career advancement.

Employees

So, How Does Asset Management Lead to Benefits?

Let’s Go Back to the Idea that Asset Management is a Thought Process

Asking Questions

Collecting Data

Analyzing Data

Setting LOS Goals & Measuring Against Them

Involving all Staff in the Program & Asking For Their Input

Asset Management Does Require a Change in How You Think About Your Assets

Even Subtle Change Can Lead to Benefits

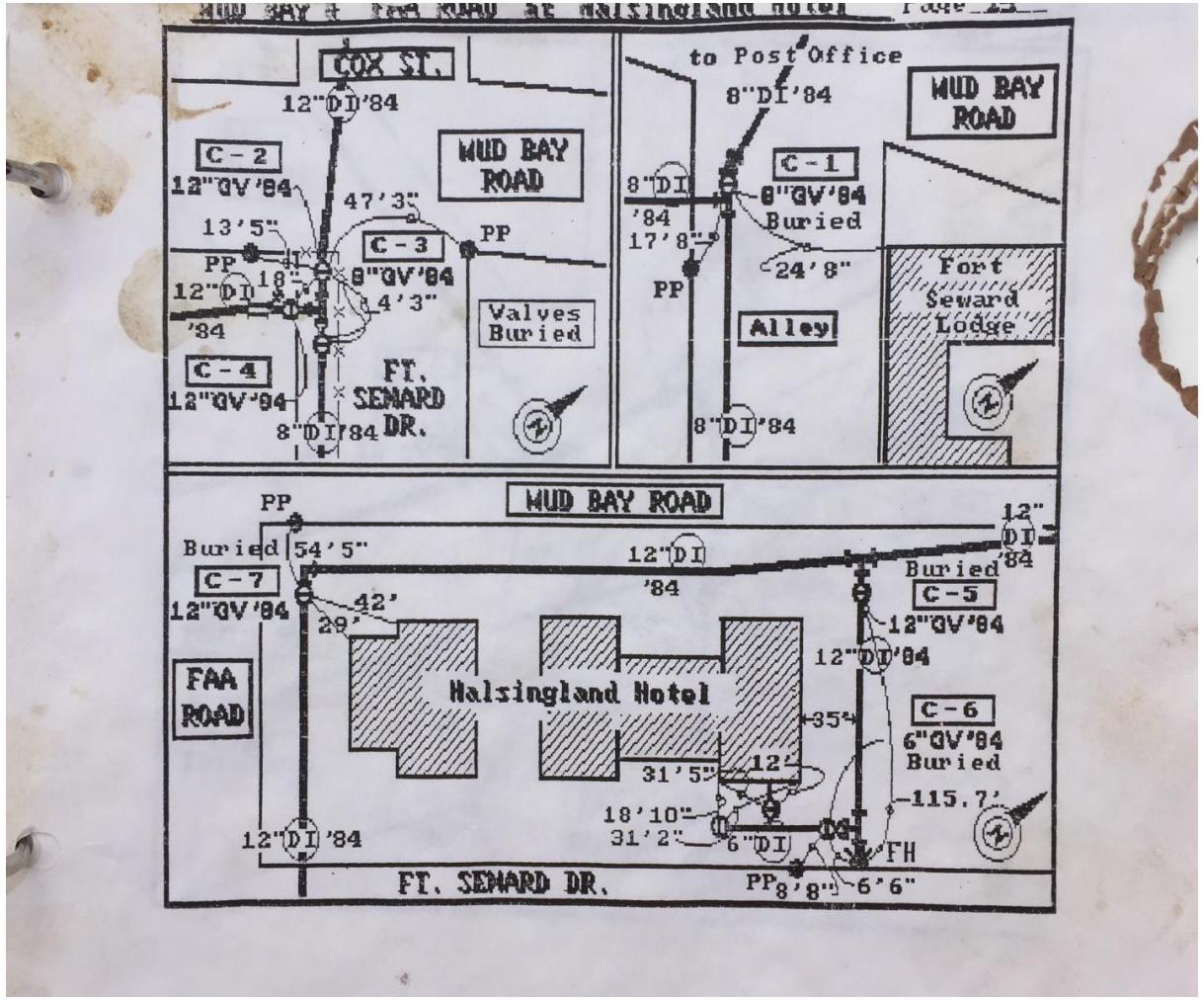
Asset Management Does Not Have to Be Thought of As One Big Thing….

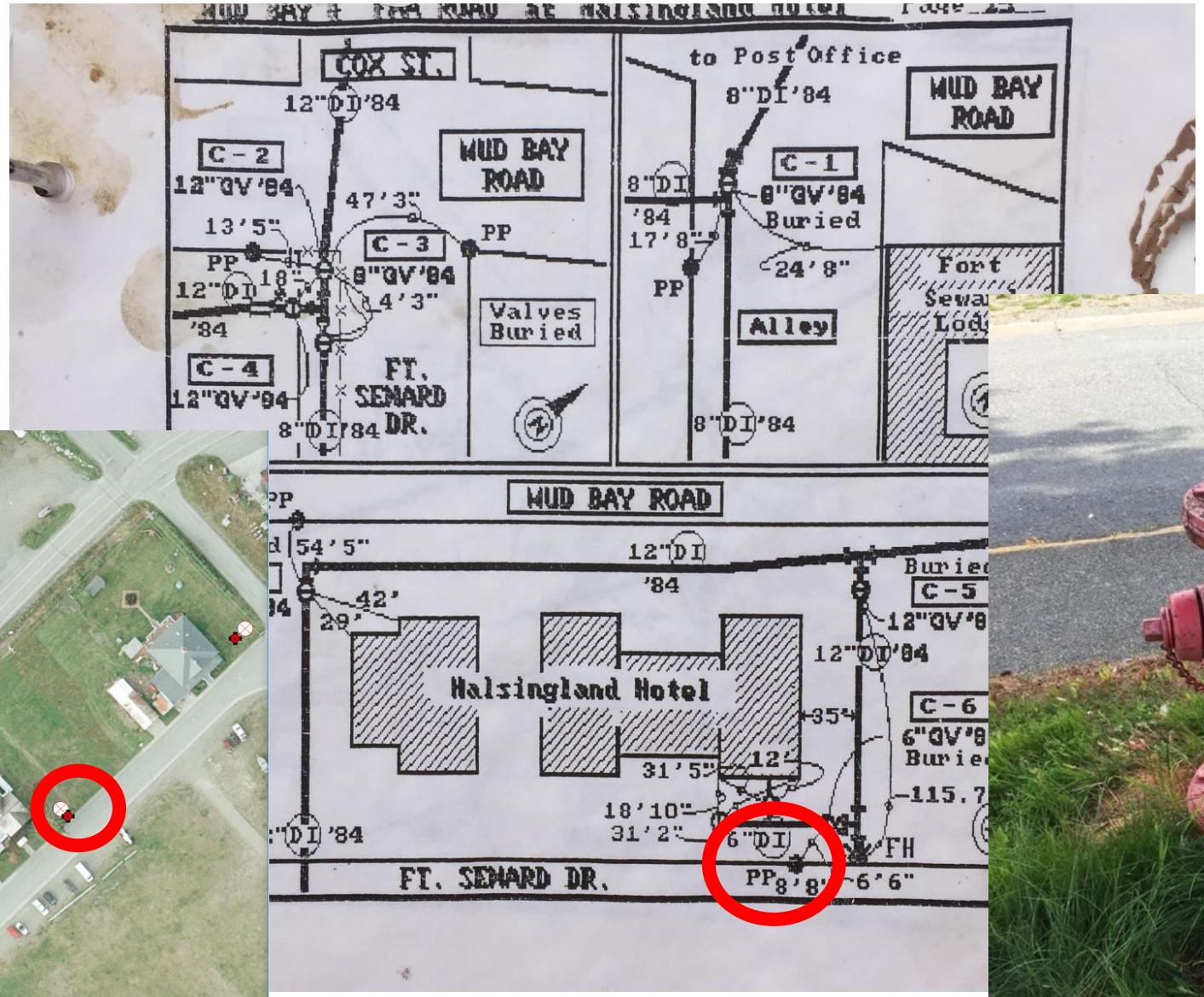
…..We Can Think of the Collection Of Activities That Make Up Your Asset Management Program

It’s Probably Easier to Look At Benefits of These Individual Pieces

Let’s look at some examples

Save Time (and Money) with A Robust Asset Inventory & Map




COX ST.
12"DI'84
C-2
12"GV'84
MUD BAY ROAD
47'3"
13'5"
PP
C-3
8"GV'84
4'3"
Valves Buried
C-4
12"GV'94
FT. SEWARD DR.
8"DI'84
to Post Office
8"DI'84
MUD BAY ROAD
C-1
8"GV'84
Buried
17'8"
24'8"
Alley
Fort
MUD BAY ROAD
54'5"
12"DI '84
42'
29'
Halsingland Hotel
C-5
C-6
35'
31'5"
12'
18'10"
31'2"
6"DI
FH
FT. SEWARD DR.
PP
8'8"
6'6"

Time Savings: 208 hours/year

Cost Savings in Labor: $6,240

Time Savings: 208 h r

Cost Savi ,240

What Would You Do With An Extra 200 Hours Per Year?

The Inventory also has a social benefit for employees: Creating a Legacy


Old Haines Hwy
STOP

SHARING HARD EARNED EXPERIENCES

And, quieter retirement!!

Saving lots of time and heartache later

A Meter Inventory Can Lead to Increased Revenue

Potential Revenue Gain

Restaurant with No Meter At All

208 meters not included in billing system

$66,000/Year (estimated)

Spare Parts Can Be a Huge Expense & Are Often Overlooked

On the Shelf Parts for Water
Approximately $300,000

Organized Parts

Drawer Cabinet 1 Showing Drawer 1 Bin 3 and Item # 0000046

List View | Inventory | Reorder Details | Rotating Assets | Where Used | Log

Item: 0000046 » AIC4409, SEAT, .625 BALL, PVC

Manufacturer Part Number: W2T11436

BPU Item ID:

Storeroom: NW010 » NWTP Storeroom

Lot Type: NOLOT

Issue Cost Type: AVERAGE

Receipt Tolerance %:

Site: WPROC

Status: ACTIVE

Item Group:

Family:

Default Bin: DC1|D1|B3

Overstock:

Default Stage Bin:

Capitalized?

Kit?

Attachments

Issue Unit: EA

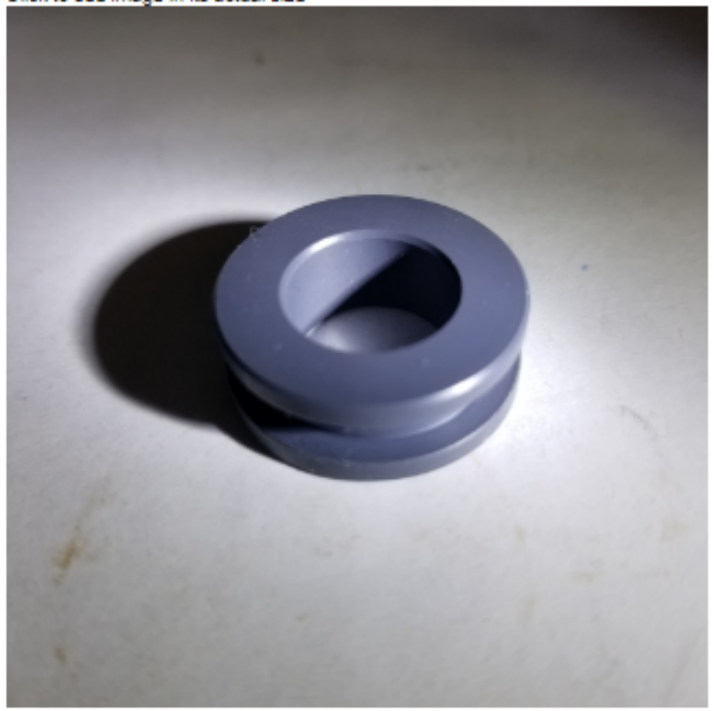
Condition Enabled?

Rotating?

Consignment?

Requires hard reservation on use?

Click to see image in its actual size



Available Balance Summary | Other Balance Summary Information | ABC Analysis | Issue History

Inventory Costs

Filter | 1 - 1 of 1

Condition Rate	Standard Cost	Old Cost	Last Receipt Cost
100	0.00	19.20	0.00

New Row

Asset Cost

Filter | 0 - 0 of 0

Inventory LIFO/FIFO Costs

Filter | 0 - 0 of 0

Inventory Balances

Filter | 1 - 1 of 1

Bin	Lot	Current Balance	Staged Balance	Staging Bin?	Physical Count	Physical Count Date	Reconciled?	Shelf Life (Days)	Expiration Date
FLTR1|DC1|D		17.00	0.00		17.00	8/17/18 1:30 PM	✓		

ITEM # 0000045

CMMS VIEW

Savings from Not Having to Look for Parts

Time Savings: Was Not Specifically Quantified, But Based on Discussions, Easy to Imagine at Least a 100 to 200 Hours/year Savings in Looking for Parts, Probably Lots More

Cost Savings in Labor: $3,000 to $6,000

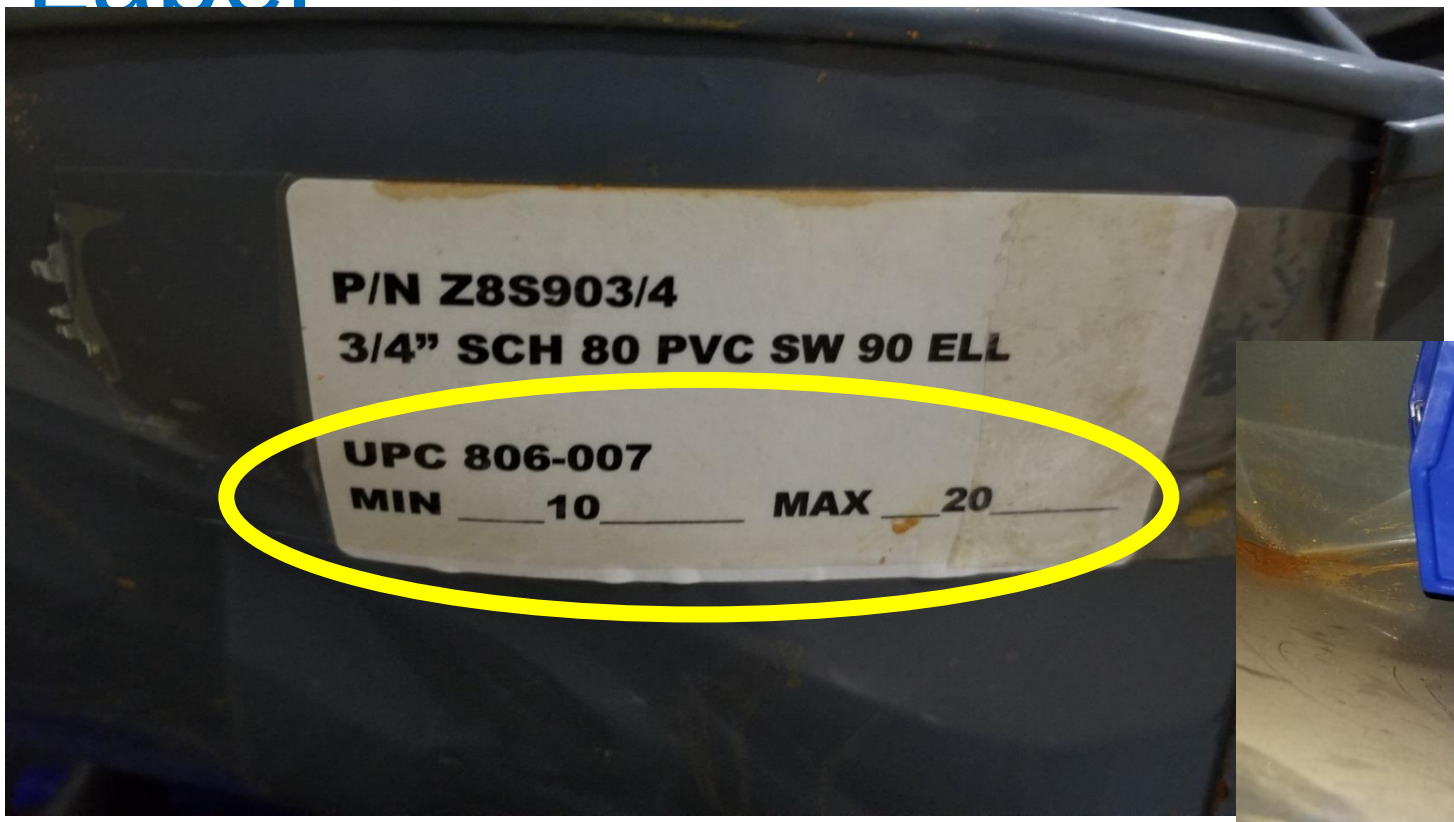
Savings from Not Taking Extra Parts

Estimated Savings

10 to 20% of the Inventory
$30,000 to $60,000

What About Those Minor, But Very Important Spare Parts That Aren't "Managed" in the Spare Parts Inventory

Rotobin Label



¾", 90, Socket Weld, SCH 80, PVC fittings

Sometimes the Data Isn't In The Right Format To Measure Benefits Quantitatively

2008 Will Call	3
2008 Non Will Call	142
2009 Will Call	0
2009 Non Will Call	111
2010 Will Call	0
2010 Non Will Call	118
2011 Will Call	0
2011 Non Will Call	171
2012 Will Call	0
2012 Non Will Call	195
2013 Will Call	0
2013 Non Will Call	193

2014 Will Call	8
2014 Non Will Call	138
2015 Will Call	28
2015 Non Will Call	119
2016 Will Call	22
2016 Non Will Call	152
2017 Will Call	22
2017 Non Will Call	101
2018 Will Call	28
2018 Non Will Call	117

Benefits in Planning and Design: Very Small Utility

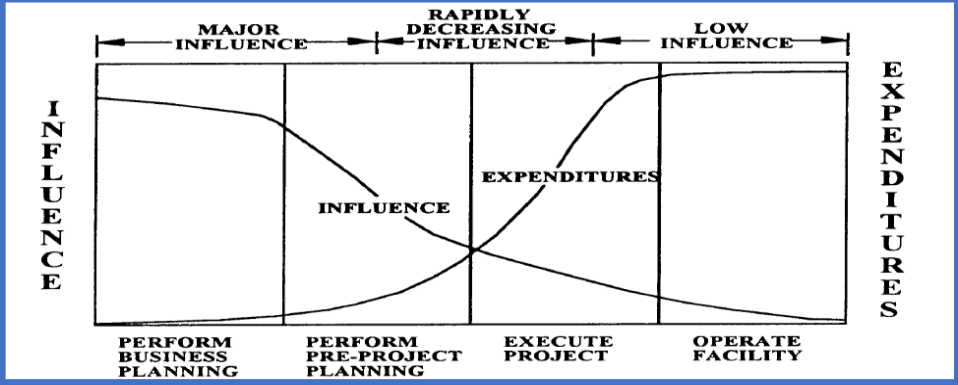


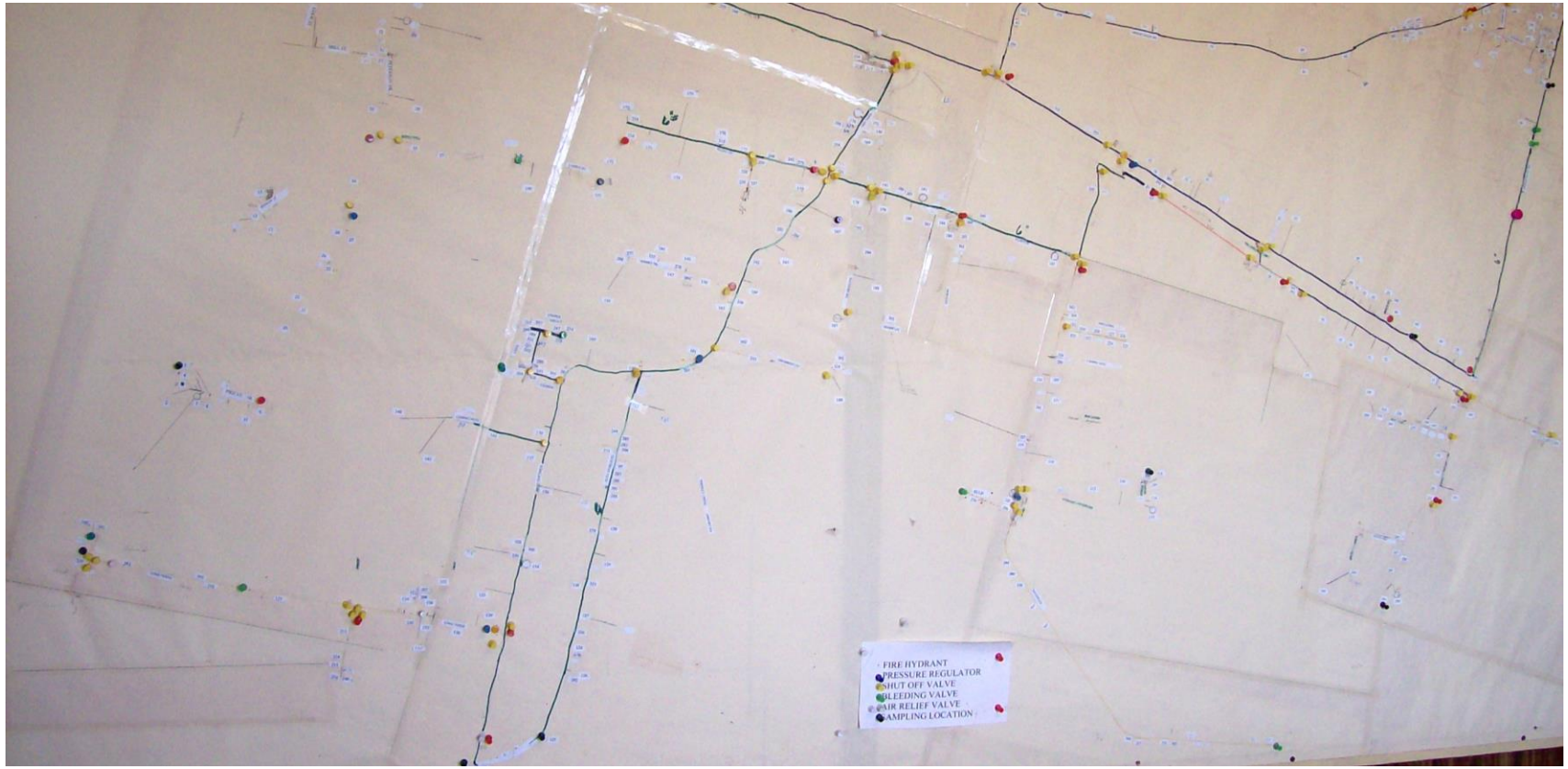
Figure 2. Relationship between influence and expenditures over project lifetime[2]

Pre-Asset Management – Need to replace all pipe

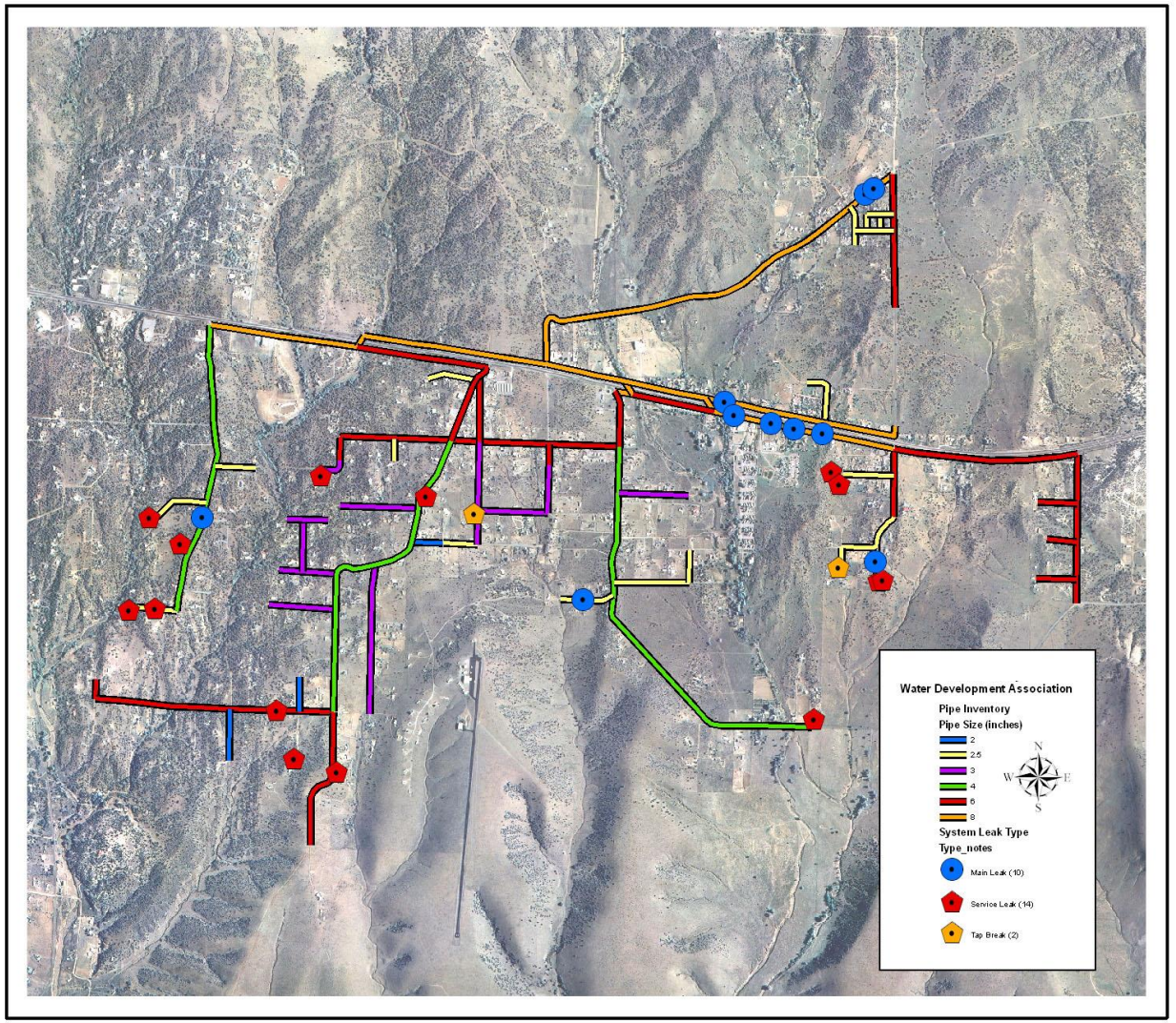
Why? It's old and breaks a lot

Cost: $5 Million

Initial Starting Place



Adding AM Thinking: What is really happening?

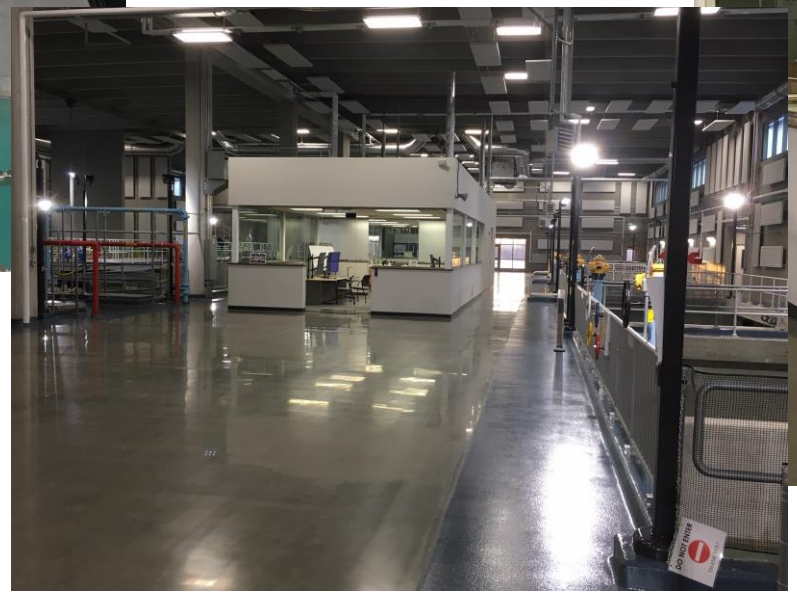


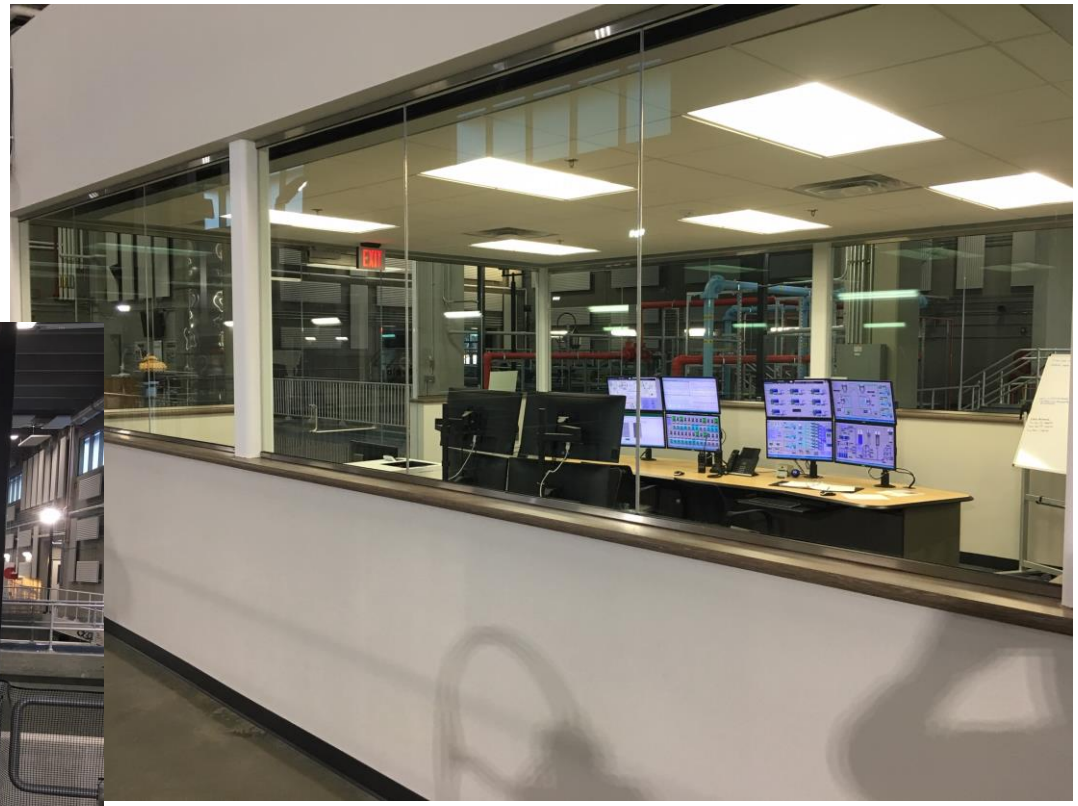
Monetary Benefit: Cost Avoidance

$4,950,000

Non-Monetary Benefits: Social & Environmental

Design & Construction Process





Benefits: Insufficient Data to Monetize

Compared to other projects

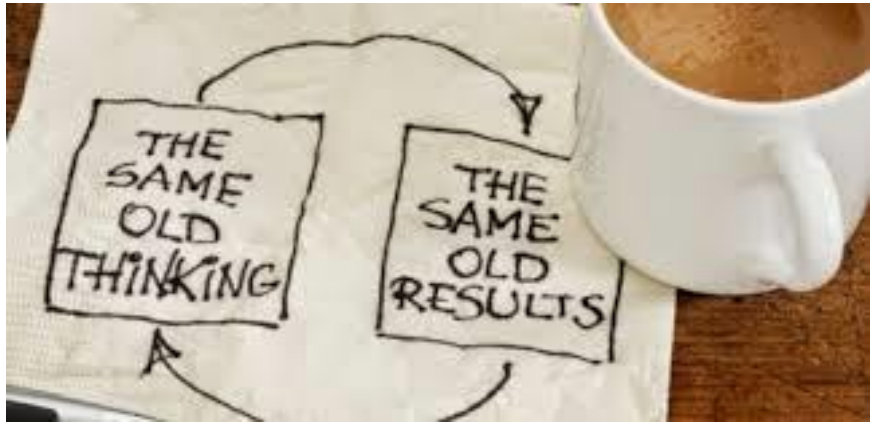
- Change orders were minimized
- Staff training was easier and minimized
- Fewer maintenance issues

Others are handed a system and told to make it work. We were involved the whole time and it was our system. (Paraphrased Quote)

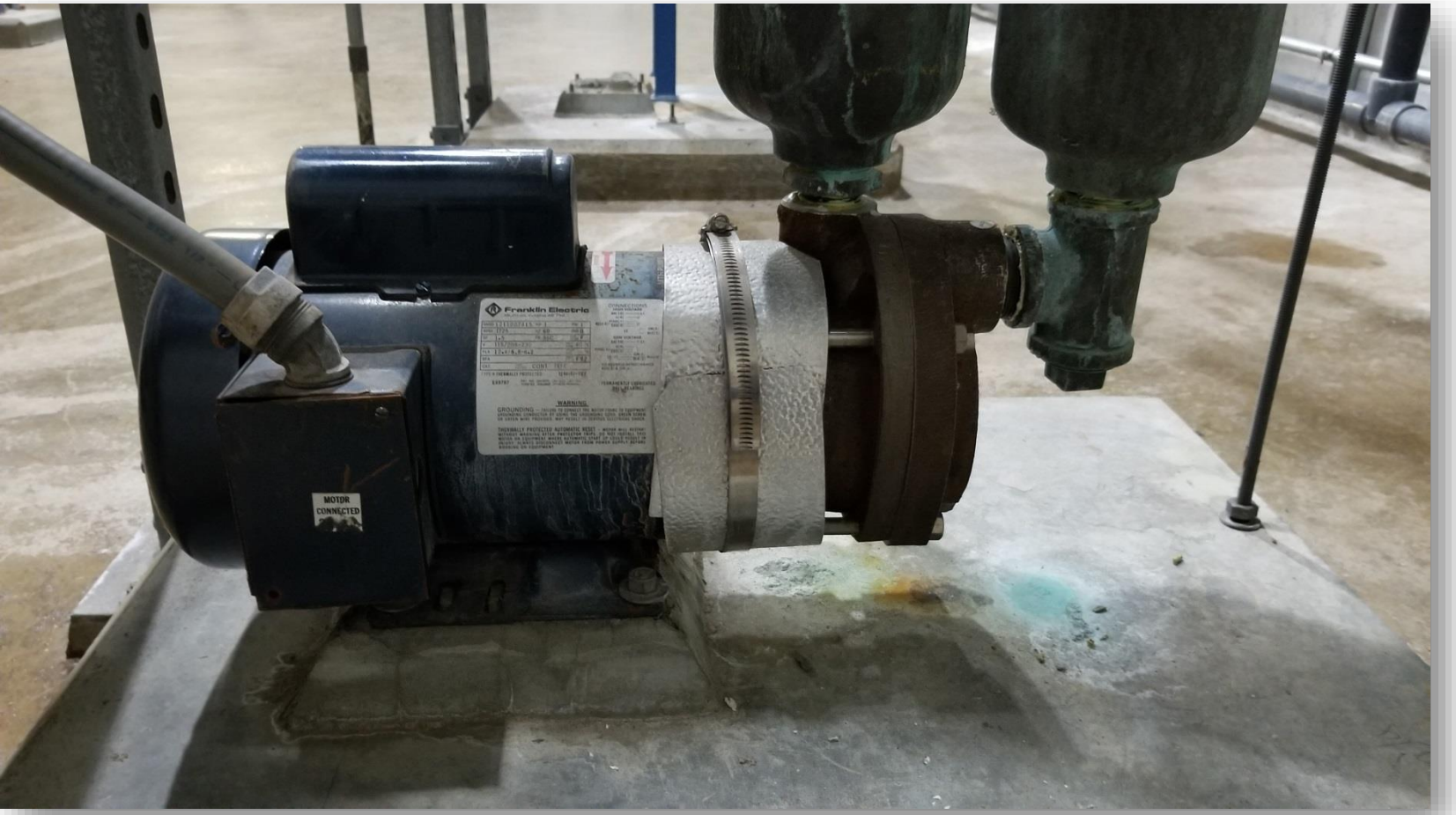
Collecting benefits data will help get bosses to support this approach going forward

Another Concept: Don’t Just Fix It, Improve It!

Use the knowledge you have to make things better next time.



Original Design: Expensive and Overkill



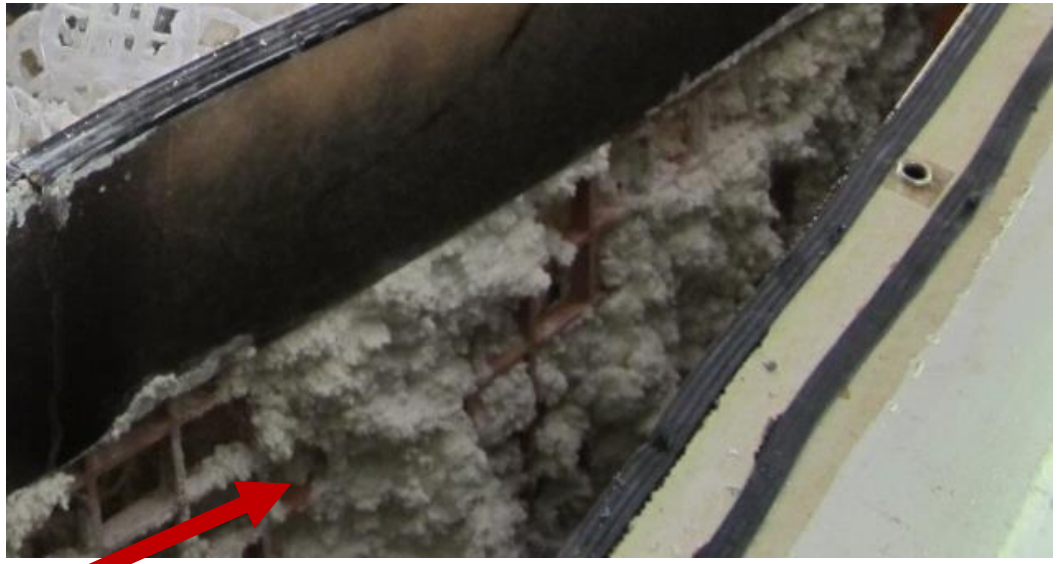
½ HP Pump
$1,500
Purchase
$700~$900 to
rebuild

Retrofit: Same Performance, Cost Savings

1/16 HP Pump
$250 new
No rebuild

Chlorine Scrubber: Don’t Just Fix It, Improve It

Scrubber showing Soda Ash Accumulation



Improvement: Retrofit Scrubber to Dry and Inert Media

Triple Bottom Line Benefits

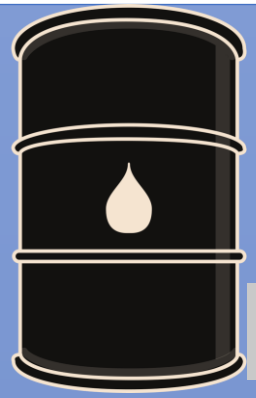
Year/Time Period	Initial Construction or Retrofit/Rehab	O&M Cost	Difference in Cost
2000	Not Known		
2001 - 2011			
2012	$101,079		rofit We
2013 - 2018			
2013 – 2022 (estimated)			ngs of $ over an 11 year od. Savings will grow over time.
Cost/Year Old Unit			
Cost/Year New Unit		$117	$19,883 per year of savings going forward with new system over the old system.

Environmental Benefits With No Negative Financial or Operational Impacts

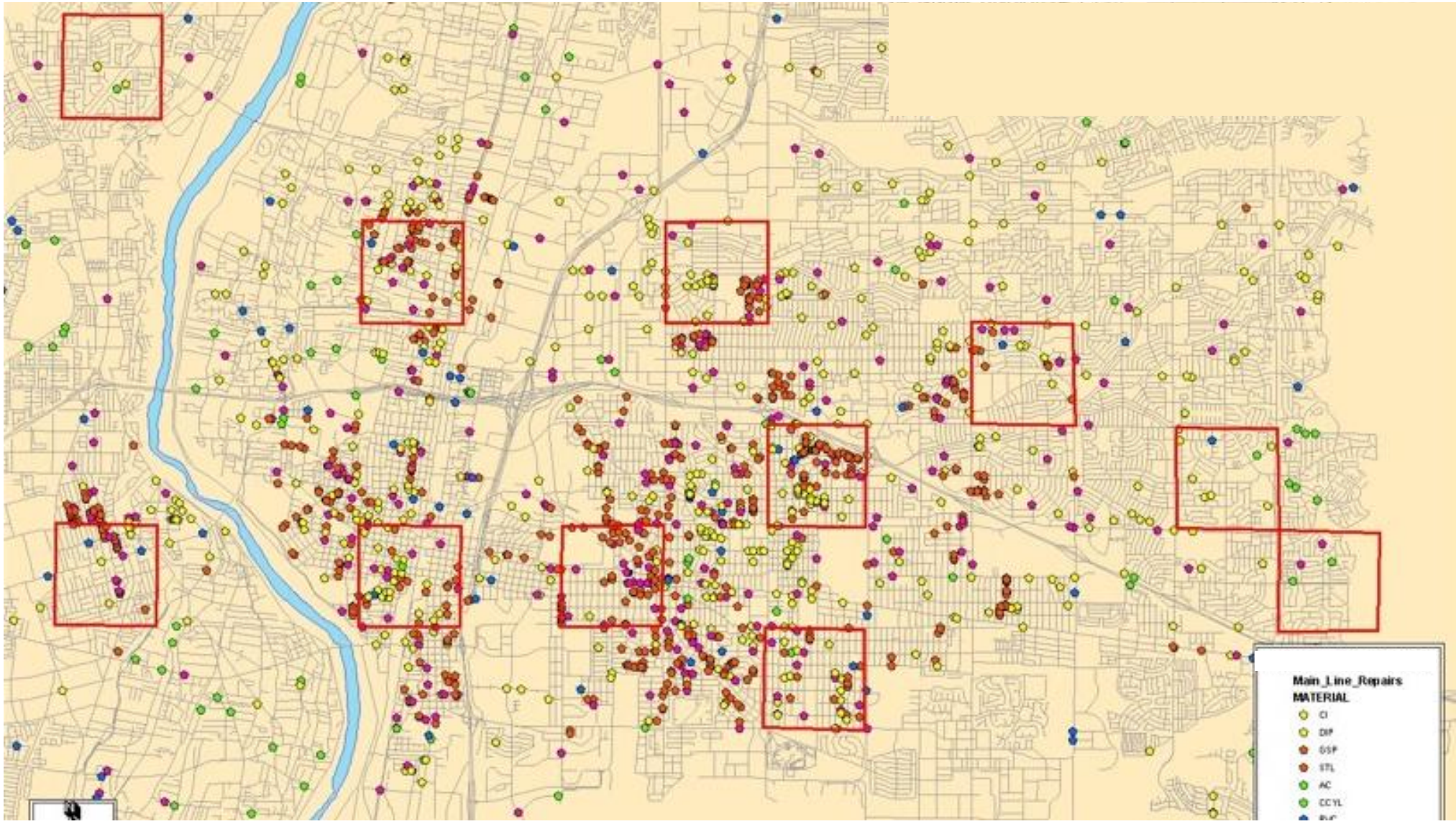
Water Cooled 50 HP Rotary Screw Compressor

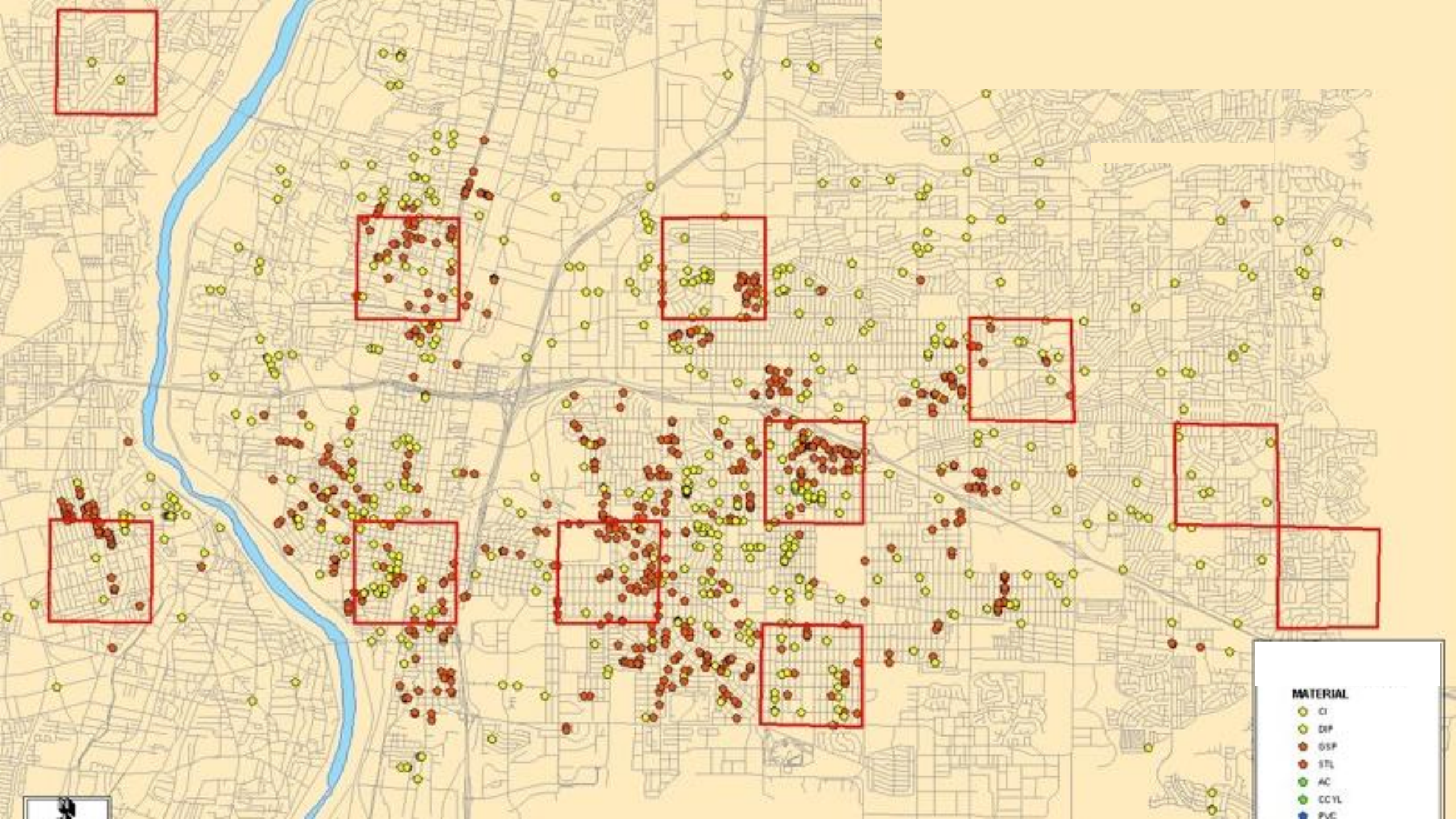
Air Cooled 40 HP Rotary Screw Compressor

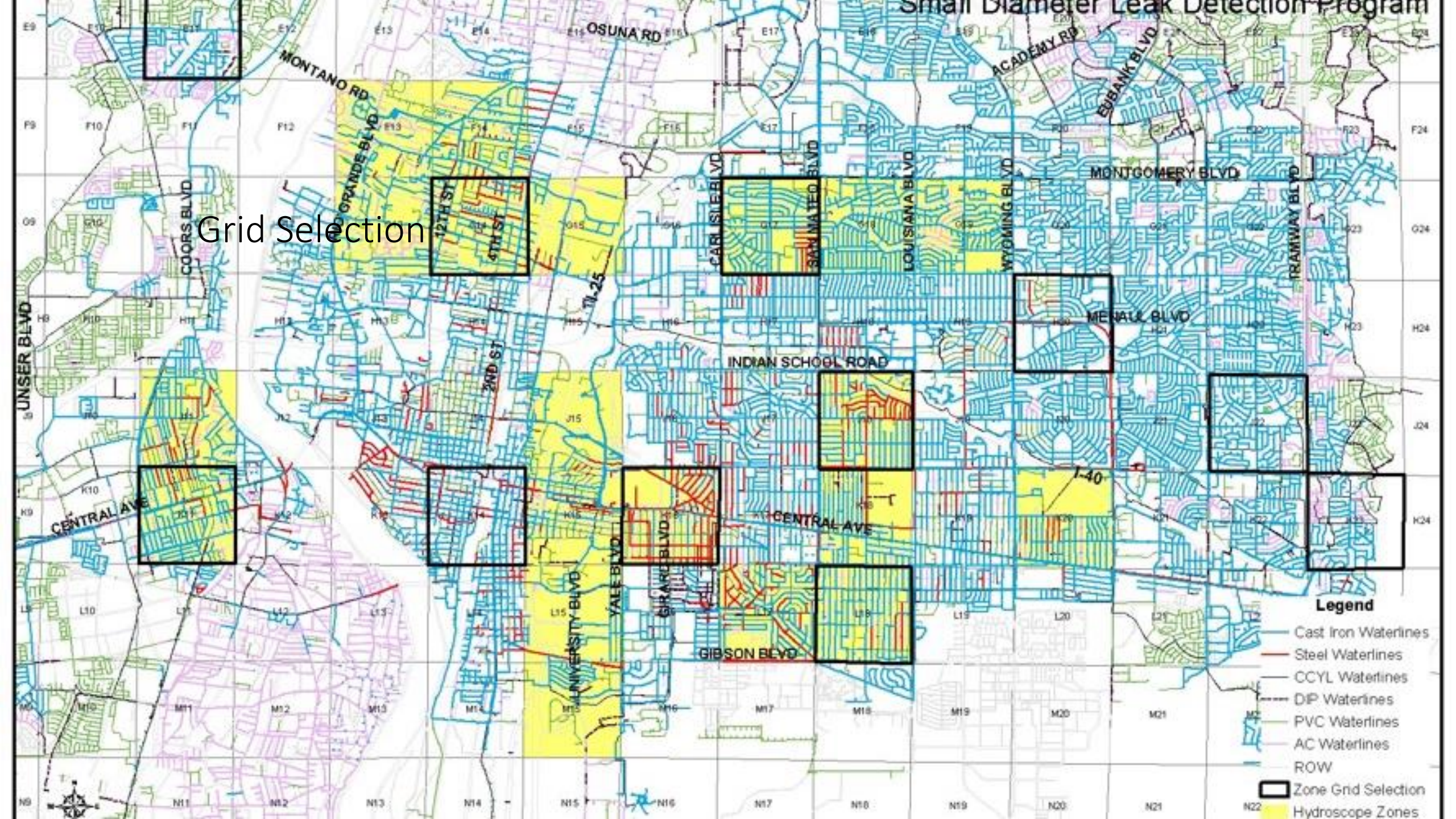
Lubrication Change to Reduce Number of Lubrication Changes Needed

54	Gallons of Lubricants		9	Prepaid Samples + Shipping
		Environmental	0	Gallons Changed
16	Man Hours to do a complete change		2	Man Hours to pull, process, and ship samples
		Social	Total Cost	$520
Total Cost $2100		**Financial**		

Using Criticality Can Increase Impact of Activities

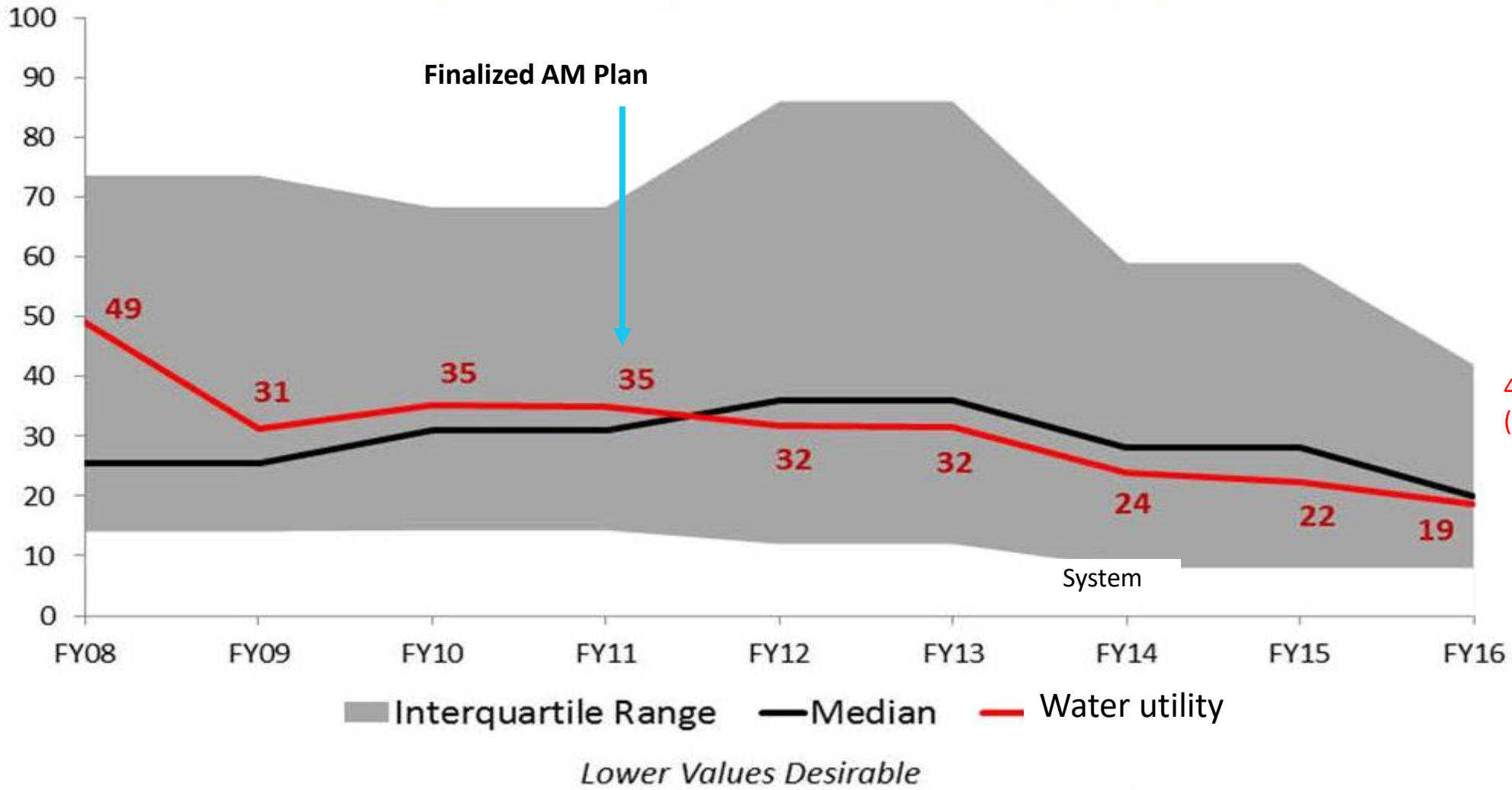



MATERIAL
CI
DIP
GSP
STL
AC
CC YL
PVC


Small Diameter Leak Detection Program
Grid Selection
OSUNA RD
MONTANO RD
ACADEMY RD
EUBANK BLVD
MONTGOMERY BLVD
TRAMWAY BLVD
WYOMING BLVD
LOUISIANA BLVD
SAN MATEO BLVD
CARLISLE BLVD
COORS BLVD
RIO GRANDE BLVD
12TH ST
4TH ST
2ND ST
I-25
UNSER BLVD
MENAUL BLVD
INDIAN SCHOOL ROAD
CENTRAL AVE
I-40
GIBSON BLVD
GIRARD BLVD
YALE BLVD
UNIVERSITY BLVD
Legend
Cast Iron Waterlines
Steel Waterlines
CCYL Waterlines
DIP Waterlines
PVC Waterlines
AC Waterlines
ROW
Zone Grid Selection
Hydroscope Zones

Water Line Integrity

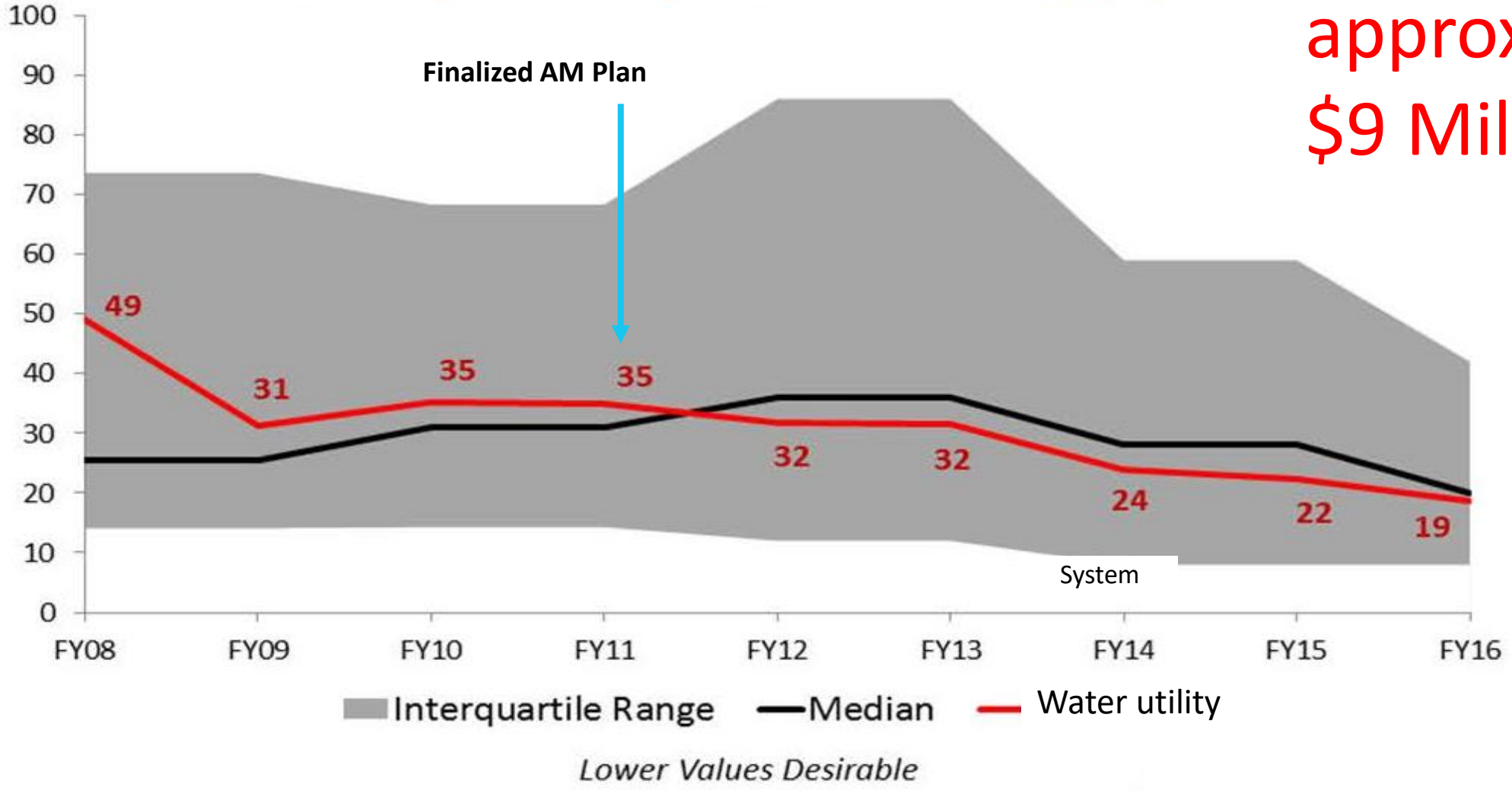
Leaks/breaks per 100 miles of pipe



45% Reduction in Break Rate
(and associated costs)

Water Line Integrity

Leaks/breaks per 100 miles of pipe

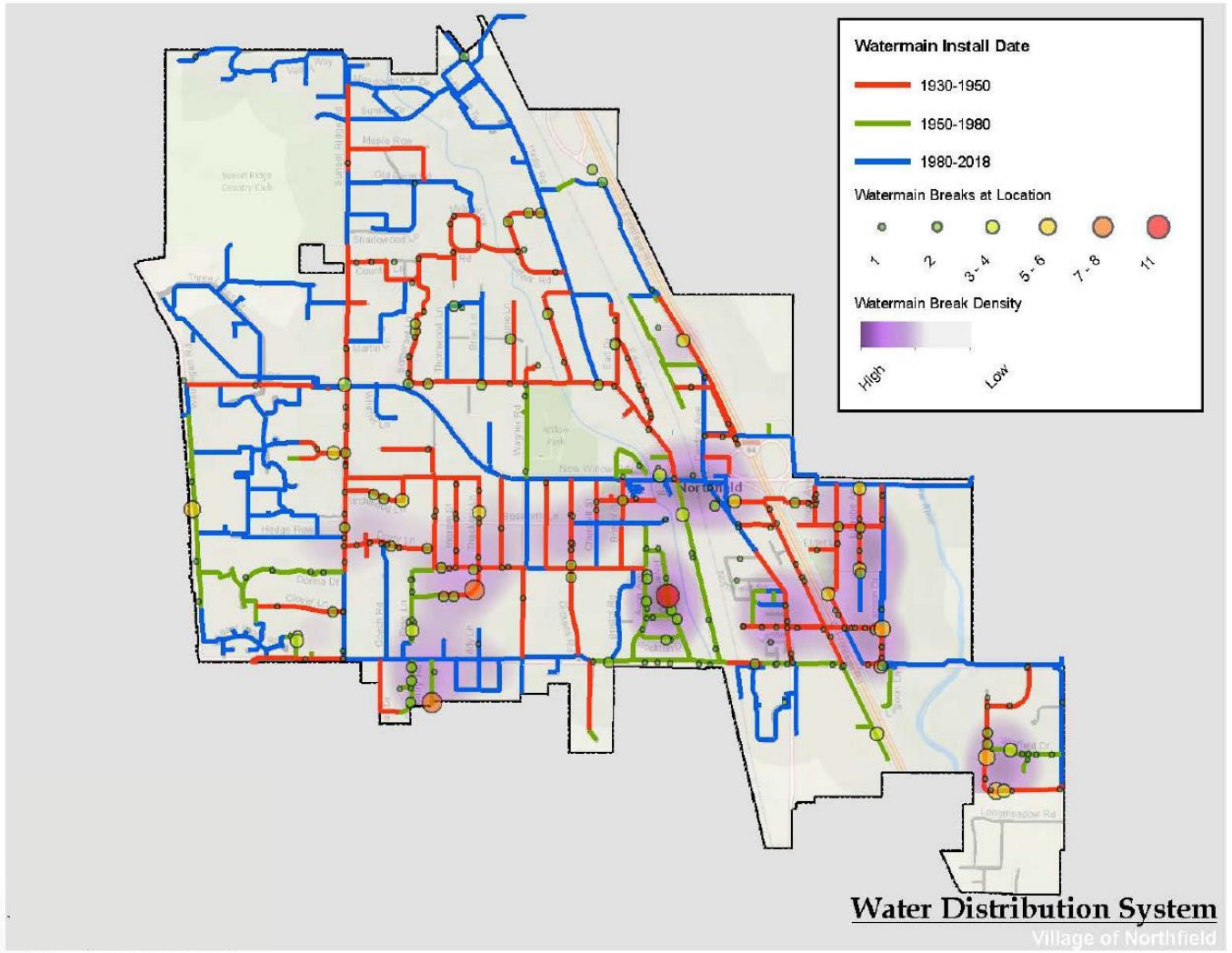


A Five-Year Cost Avoidance was approximately $9 Million

With Extra Time and Funds: Reduction in Estimated Inoperable Meters

Also Started Valve Exercising Program

How can we afford to replace all of the pipe requiring replacement?



Water Main System Map

Have 16 miles of water main that are between 60 to 80 years old. Cost to replace $23.85 million. What can we do?

Pipe replacement was based solely on pipe age. Turns out **Age** is a poor indicator of pipe condition and not a good way, by itself, to tell if pipe needs to be replaced

If that’s true, we need some other data that would tell us more about the pipe

So, what data did the system have?

Pipe types and sizes in some cases (but not all)

Extensive data on breaks in terms of when and where (not so much regarding details of the breaks)

Very limited soil condition data

Started with break data they had; Worked with it to generate mapping

Table

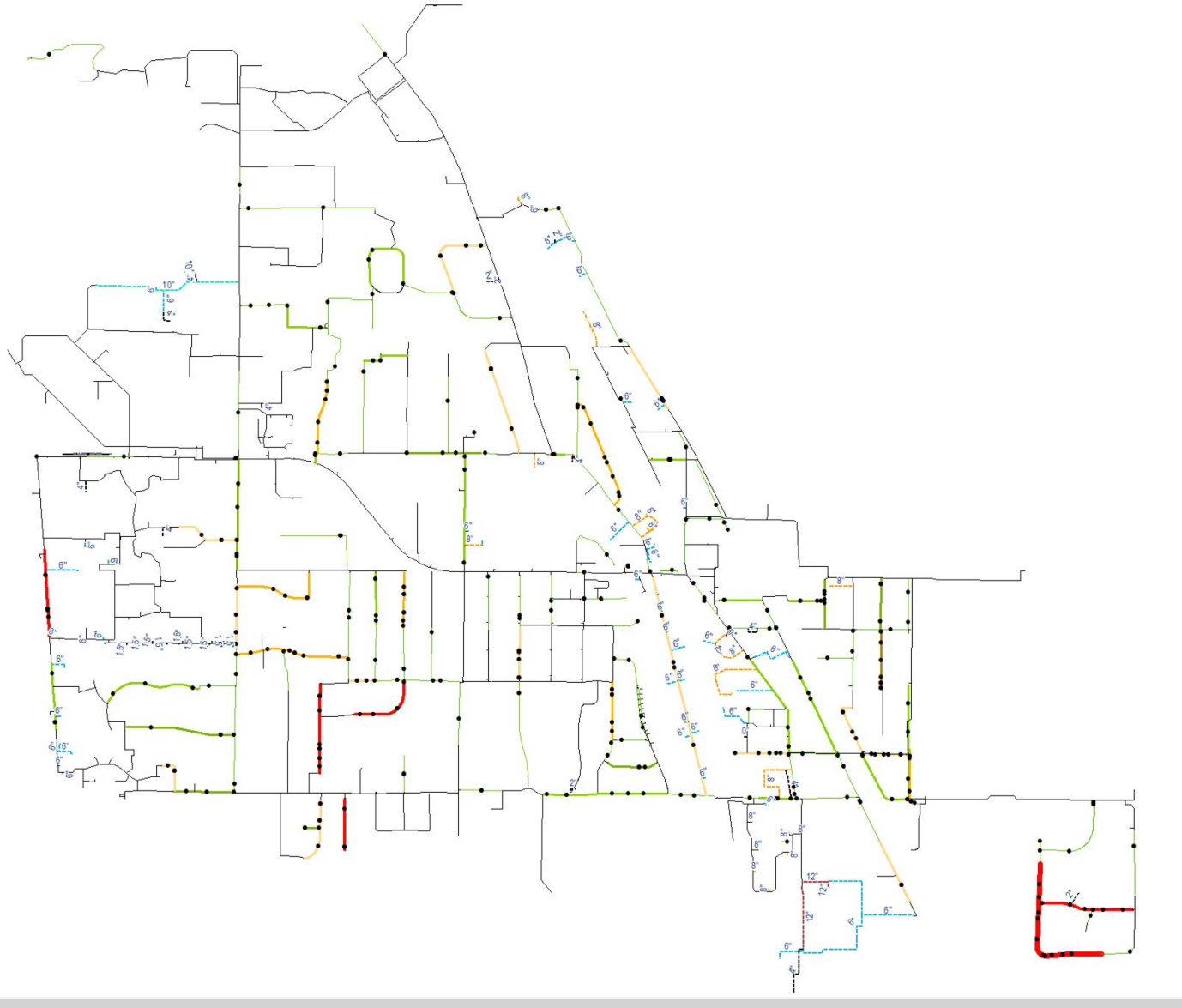
MovedMainBreaksExport Events

OBJECTID *	Loc_name	DATE	LOCATION	TYPE OF WORK	Ductle	Cast	Replaced	USER_field	X	Y	Breaks at Location	SegmentID	NEAR_FID	NEAR_DIST	NEAR_X	NEAR_Y	Shape *
289	World	2/15/2012	10 Winfield	Watermain Break		X	No		1141769.696923	1976105.939548	1	WINFIELD DR61/1/1970	61	4.914688	1141769.696923	1976110.854236	Point
450	World	12/21/2018	10 Winfield	Watermain break		X	No	Crack	-87.753002	42.090515	<Null>	<Null>	61	4.914688	1141769.696923	1976110.854236	Point
458	World	12/21/2018	10 Winfield	Watermain break		X	No	Crack	-87.753002	42.090515	<Null>	<Null>	61	4.914688	1141769.696923	1976110.854236	Point
134	World	4/23/2002	107 Happ	Watermain Break		X	No		1138187.886501	1977424.556989	1	HAPP RD101/1/1937	306	14.790576	1138186.877461	1977409.800873	Point
88	World	1/3/2000	109 Happ	Watermain Break		X	No		1138178.502333	1977467.132692	1	HAPP RD101/1/1937	308	17.290048	1138161.408385	1977464.53602	Point
256	World	12/1/2009	109 Sunset Ridge	Hit Hydrant		X	No		1131604.270403	1977584.480554	1	SUNSET RIDGE RD106/1/1995	437	1.361843	1131605.632164	1977584.465626	Point
378	World	10/4/2016	110 Lagoon	Reair Valve		X	No		1139497.800876	1977498.223181	1	LAGOON DR81/1/1937	68	5.335425	1139503.136299	1977498.227395	Point
161		12/12/2003	110 Sinsert Ridge on wntka	Watermain Break	X		No		1131604.801242	1977486.739936	1	WINNETKA RD101/1/1985	134	0.693397	1131604.805175	1977487.433321	Point
282	World	3/1/2011	119 Happ	Service leak		X	No		1138171.097821	1977554.092163	1	HAPP RD101/1/1937	308	23.02935	1138148.329665	1977550.633547	Point
290	World	5/18/2012	12 Landmark	Watermain Break		X	No		1137863.783147	1977710.913372	1	<Null>	315	231.787161	1137865.5174	1977942.694045	Point
255	World	9/4/2009	12 Old Hunt	Watermain Break		X	No		1129434.789178	1986125.244641	1	OLD HUNT RD86/1/1995	224	2.414983	1129436.820592	1986123.938692	Point
413	World	1/11/2018	125 Eddy Lane	Watermain Break	X		No	Service	1133580.193289	1977695.278561	1	EDDY LN86/1/2001	346	8.544003	1133588.737282	1977695.290986	Point
422	World	1/11/2018	125 Eddy Lane	Watermain Break	X		No	Service	-87.783134	42.095024	<Null>	<Null>	346	10.136948	1133588.733117	1977698.155502	Point
185	World	3/13/2006	125 Enid	Watermain Break		X	No		1132607.764131	1977791.069052	1	ENID LN66/1/1966	143	4.215799	1132603.548375	1977791.088247	Point
100	World	6/24/2000	128 Lagoon	Watermain Break		X	No		1139496.272992	1977645.806547	1	LAGOON DR81/1/1937	87	5.730609	1139490.542524	1977645.766269	Point
62	World	3/2/1997	13 Meadowview	Watermain Break		X	No		1142105.138837	1975603.500592	1	MEADOWVIEW RD61/1/1955	555	21.798623	1142087.965851	1975616.927002	Point
144	World	1/28/2003	141 Enid	Watermain Break		X	No		1132609.874691	1977886.197798	3	ENID LN66/1/1966	143	5.893197	1132603.981555	1977886.224631	Point
221	World	1/21/2008	141 Enid	Watermain Break		X	No		1132609.874691	1977886.197798	3	ENID LN66/1/1966	143	5.893197	1132603.981555	1977886.224631	Point
225	World	2/21/2008	141 Enid	Watermain Break		X	No		1132609.874691	1977886.197798	3	ENID LN66/1/1966	143	5.893197	1132603.981555	1977886.224631	Point
31	World	2/21/1994	142 W. Frontage	Watermain Break		X	No		1138750.445743	1977796.239973	1	W FRONTAGE RD61/1/1937	496	22.574755	1138730.152536	1977786.350316	Point
337	World	1/3/2015	144 Avon	Watermain Break	X		No		1135994.415494	1977900.622966	1	GROVE DR66/1/1959	26	24.35578	1135975.417932	1977915.864247	Point
170	World	8/17/2005	15 Country Lane	Watermain Break		X	No		1132612.0968	1982881.644829	1	COUNTRY LN65/1/1963	249	39.871313	1132612.972315	1982921.506528	Point
420	World	1/7/2019	15 Country Lane	Watermain Break		X	No		<Null>	<Null>	<Null>	COUNTRY LN65/1/1963	249	39.871313	1132612.972315	1982921.506528	Point
115	World	2/27/2001	150 Thackery	Watermain Break		X	No		1133071.846536	1978376.825098	2	THACKERAY LN61/1/1952	97	20.142516	1133071.909028	1978396.967517	Point
127	World	10/9/2001	150 Thackery	Watermain Break		X	No		1133071.846536	1978376.825098	2	THACKERAY LN61/1/1952	97	20.142516	1133071.909028	1978396.967517	Point
141	World	1/10/2003	1520 Winnetka	Watermain Break		X	No		1139565.377512	1977373.144691	1	LAGOON LN66/1/1992	9	17.493401	1139564.973141	1977355.655964	Point
376	World	9/30/2016	1544 Winnetka Road	Watermain Break		X	No		1139478.567975	1977370.720155	3	WINNETKA RD81/1/1937	85	32.540344	1139478.530839	1977403.260478	Point
377	World	10/1/2016	1544 Winnetka Road	Watermain Break		X	No		1139478.567975	1977370.720155	3	WINNETKA RD81/1/1937	85	32.540344	1139478.530839	1977403.260478	Point
379	World	10/8/2016	1544 Winnetka Road	Watermain Break		X	No		1139478.567975	1977370.720155	3	WINNETKA RD81/1/1937	85	32.540344	1139478.530839	1977403.260478	Point
178	World	12/22/2005	155 Enid	Watermain Break		X	No		1132609.261175	1978043.626289	1	ENID LN66/1/1966	143	4.562884	1132604.698339	1978043.647065	Point
118	World	3/4/2001	155 Lagoon	Watermain Break		X	No		1139514.891721	1977885.360202	1	LAGOON DR81/1/1937	68	12.061195	1139502.83053	1977885.350675	Point
105	World	2/5/2001	1556 Harding	Watermain Break		X	No		1139401.462486	1977898.985174	2	HARDING RD61/1/1937	71	30.241213	1139401.459686	1977929.226387	Point
241	World	1/27/2009	1556 Harding	Watermain Break		X	No		1139401.462486	1977898.985174	2	HARDING RD61/1/1937	71	30.241213	1139401.459686	1977929.226387	Point
311	World	9/13/2013	1561 Winnetka	Watermain Break		X	No		1139296.061122	1977389.18731	1	WINNETKA RD81/1/1937	553	14.012931	1139296.057357	1977403.20024	Point
448	World	12/7/2018	1561 Winnetka	Watermain Break		X	No	Hole	-87.762083	42.094082	<Null>	<Null>	553	14.012931	1139296.057357	1977403.20024	Point
457	World	12/7/2018	1561 Winnetka	Watermain Break		X	No	Hole	-87.762083	42.094082	<Null>	<Null>	553	14.012931	1139296.057357	1977403.20024	Point
359	World	2/20/2016	1563 Harding	Watermain Break		X	No		1139257.24952	1977919.161315	1	HARDING RD61/1/1937	71	10.051719	1139257.248589	1977929.213034	Point
411	World	1/9/2018	1563 Mt. Pleasant	Watermain Break		X	No		<Null>	<Null>	<Null>	MT PLEASANT ST81/1/1937	13	15.393499	1139280.658821	1979392.424036	Point
464	World	2/7/2019	1565 Harding Road	Watermain Break		X	No	5" hole	-87.762402	42.095546	<Null>	<Null>	71	6.755307	1139205.928787	1977929.208282	Point
437	World	8/7/2018	1570 Oak	Water main break	X		No	Hole	-87.771569	42.105002	<Null>	<Null>	281	28.133195	1136695.413813	1981379.63246	Point
441	World	8/29/2018	1570 Oak	Watermain Break	X		No		-87.771569	42.105002	<Null>	<Null>	281	28.133195	1136695.413813	1981379.63246	Point
231	World	8/8/2008	1571 Harding	Watermain Break		X	No		1139105.780006	1977921.784341	1	HARDING RD61/1/1937	71	7.414668	1139105.77932	1977929.199009	Point

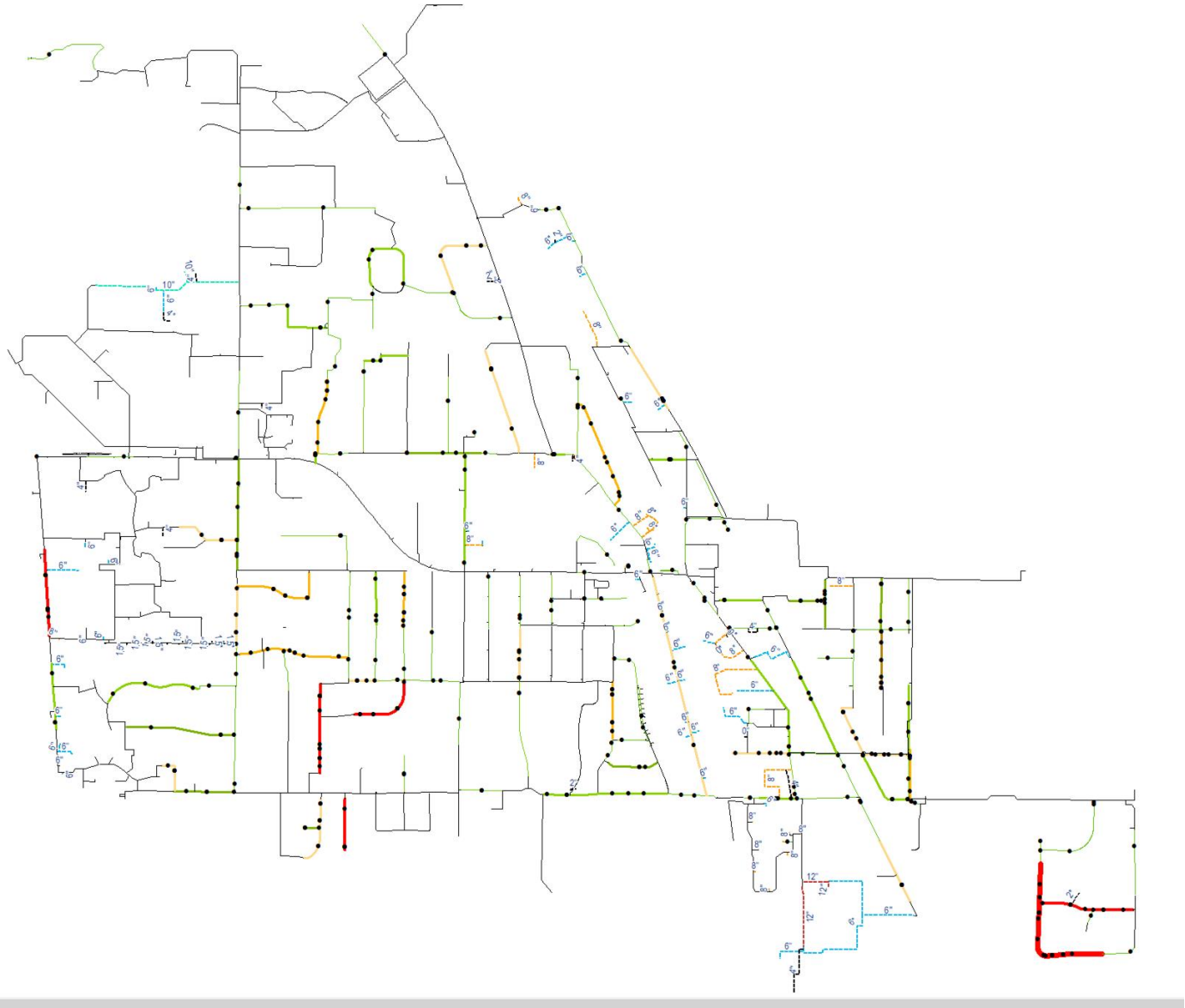
0 | (0 out of 464 Selected)

MovedMainBreaksExport Events

Took a more detailed look at which pipes were actually breaking, in a variety of ways



Assessment that 4.9 miles of pipe or less needs to be done over the next several years



What is the potential benefit?

Instead of $23.85 M, could spend $7.35 M, for a savings of $16.5 M!!!!!

The lower expenditure will most likely achieve a large part of the benefit for a fraction of the cost.

Data collection can be improved going forward, so even better decisions can be made.

A further investment in pipe condition assessment technology could also add to the knowledge base of the utility.

A Wastewater Treatment Plant Assessment of Needed Replacements

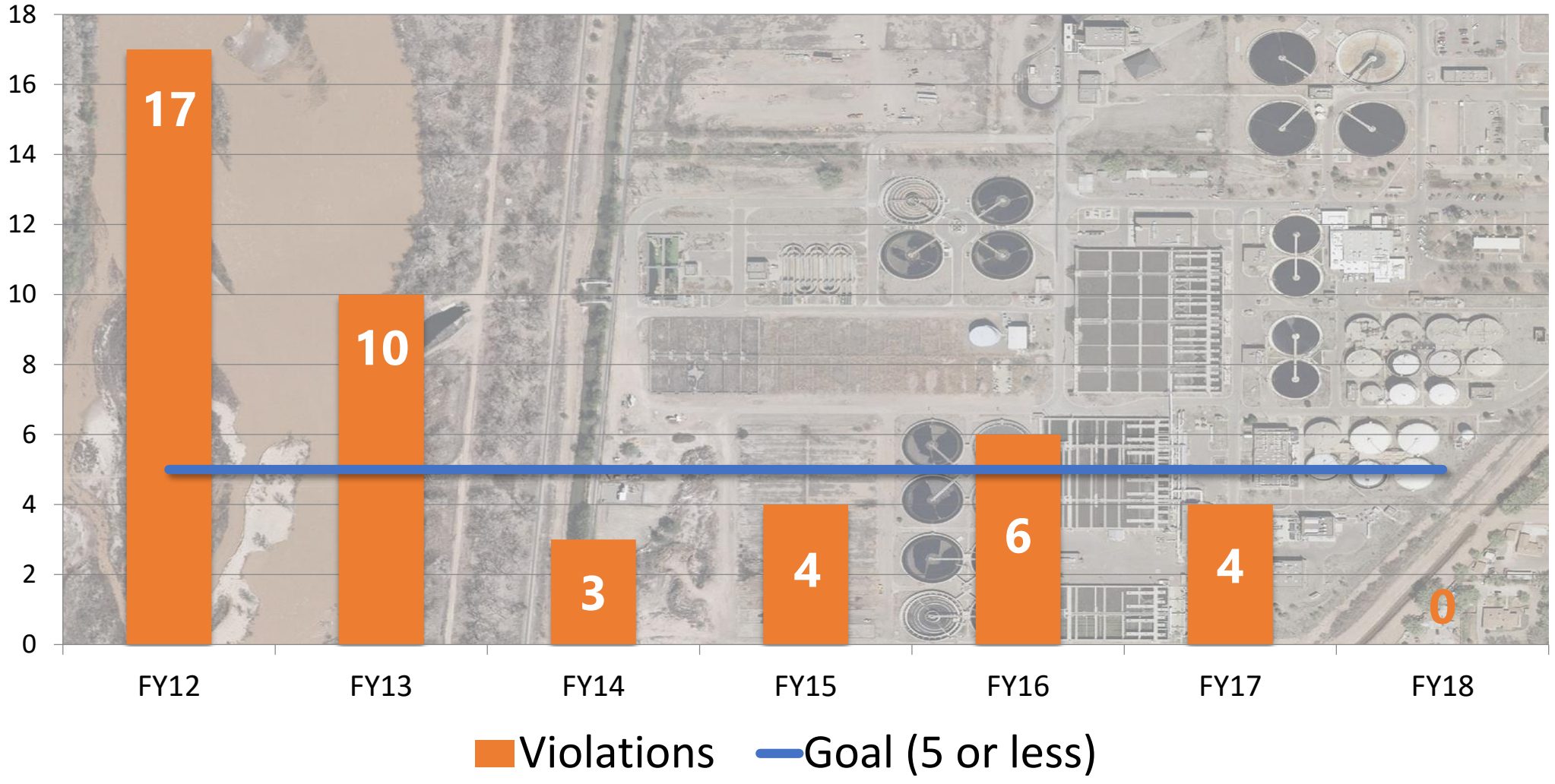
Wastewater treatment plant using age and using operational judgement

Examples of Goal Setting Benefits

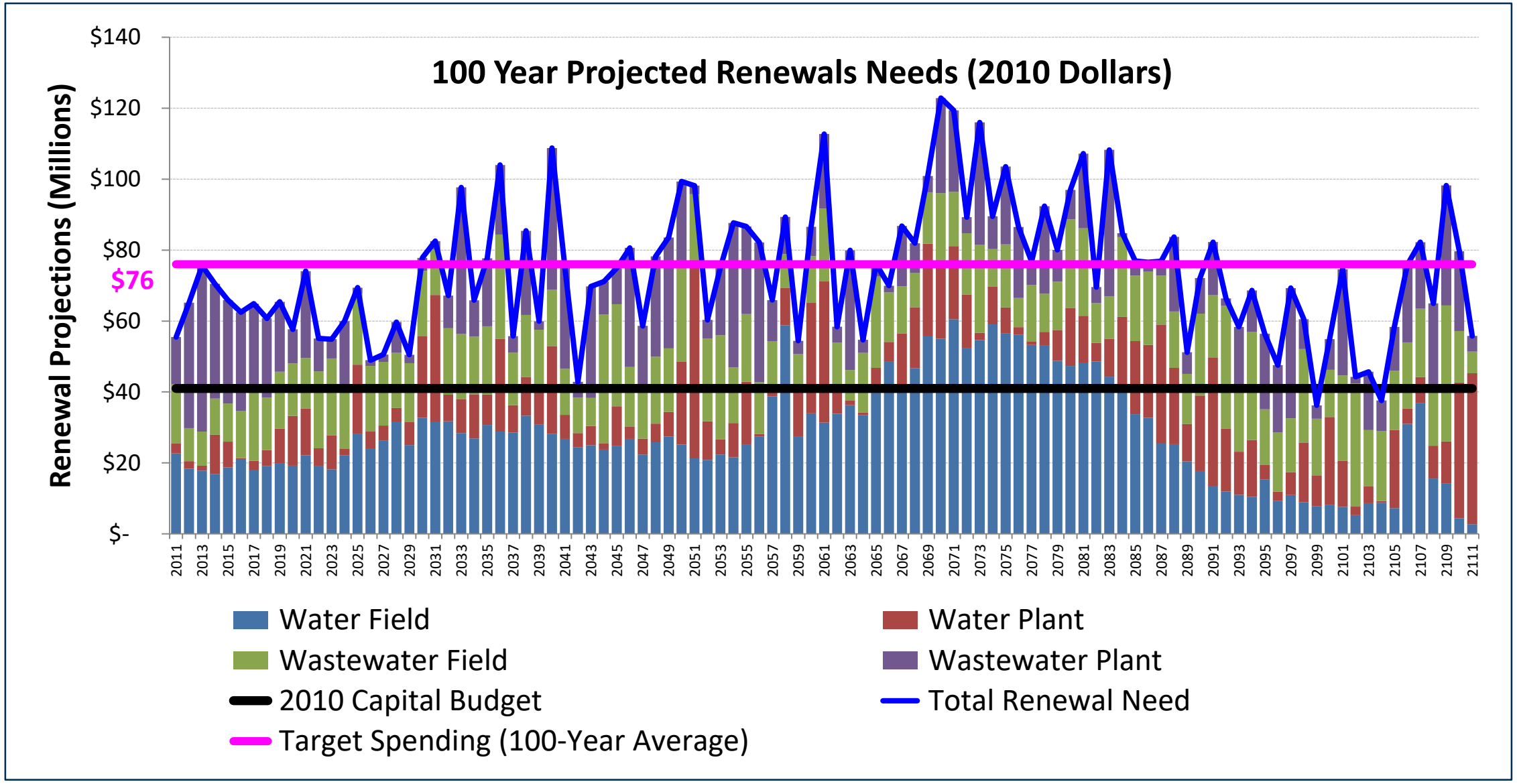
Reduced injury time from 23,000 hours/yr to <2,700 hours/yr
(included employee incentives)

Apparent losses are down from 4% to 0.3%
From 4,000 estimated meters, down to 100's estimated

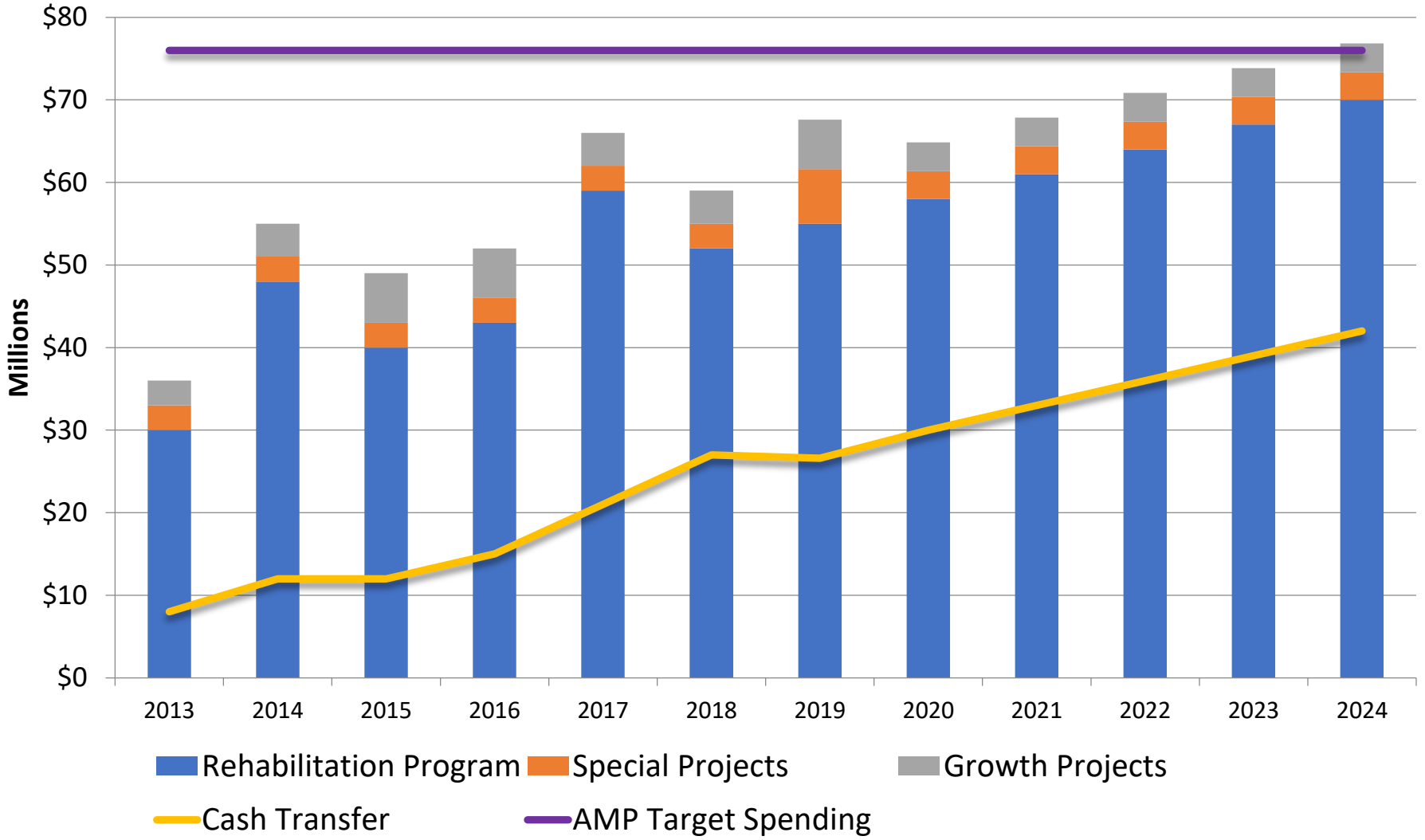
Discharge Permit Violations



Increasing Infrastructure Needs



Ramping Up CIP to Meet Infrastructure Needs



Systemwide Asset Management Plan Goal

- Spend $76 M annually
- $35 M gap in 2012
- Add $3 million per year cumulatively to reach goal

Customer Outreach Tools

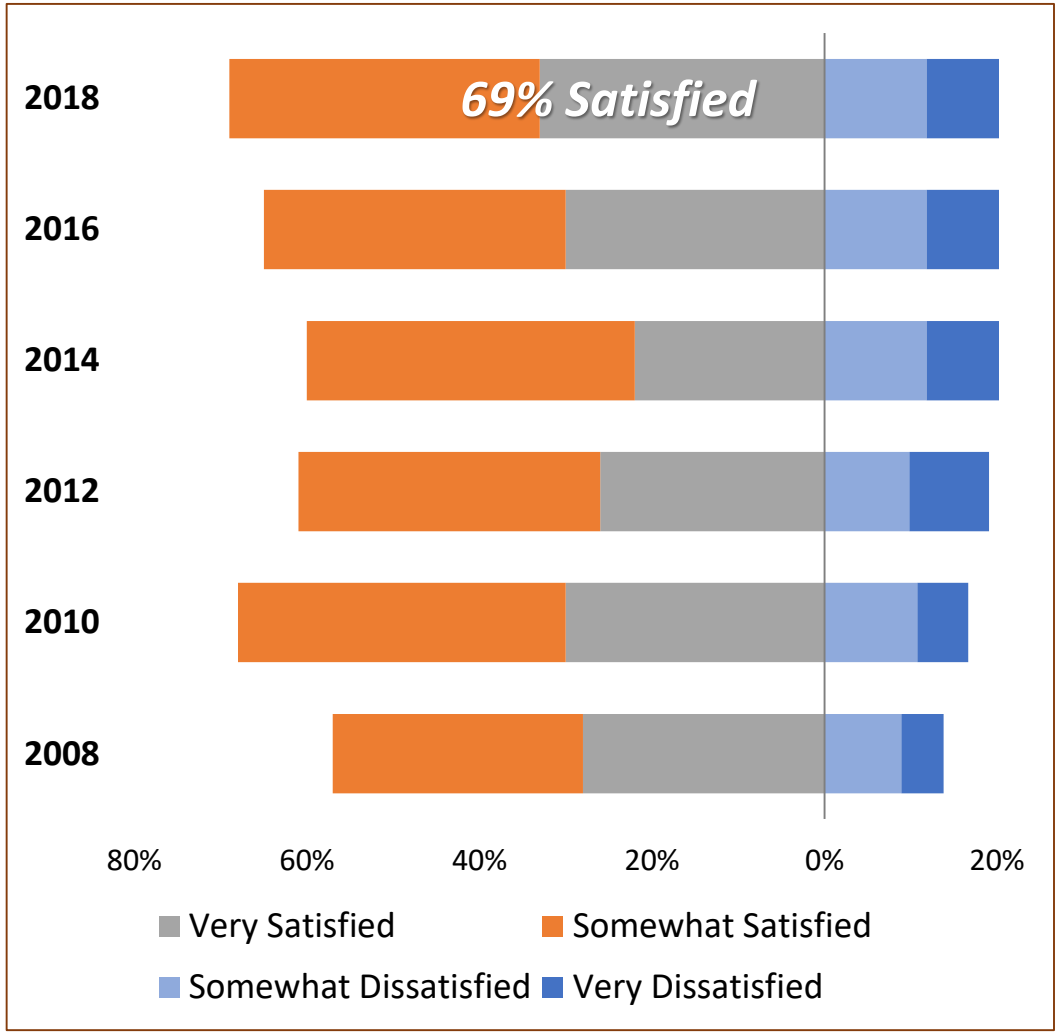
<u>Customer Opinion Survey</u>

- 500 Residential Customers
  100 Commercial Customers
- Biennial, Contracted Local Research/Polling Firm
- Randomly Selected
- Telephone Survey using Landlines and Cellphones
- 50 Questions
- 4.4% Margin of Error

Customer Satisfaction on Pipe Condition

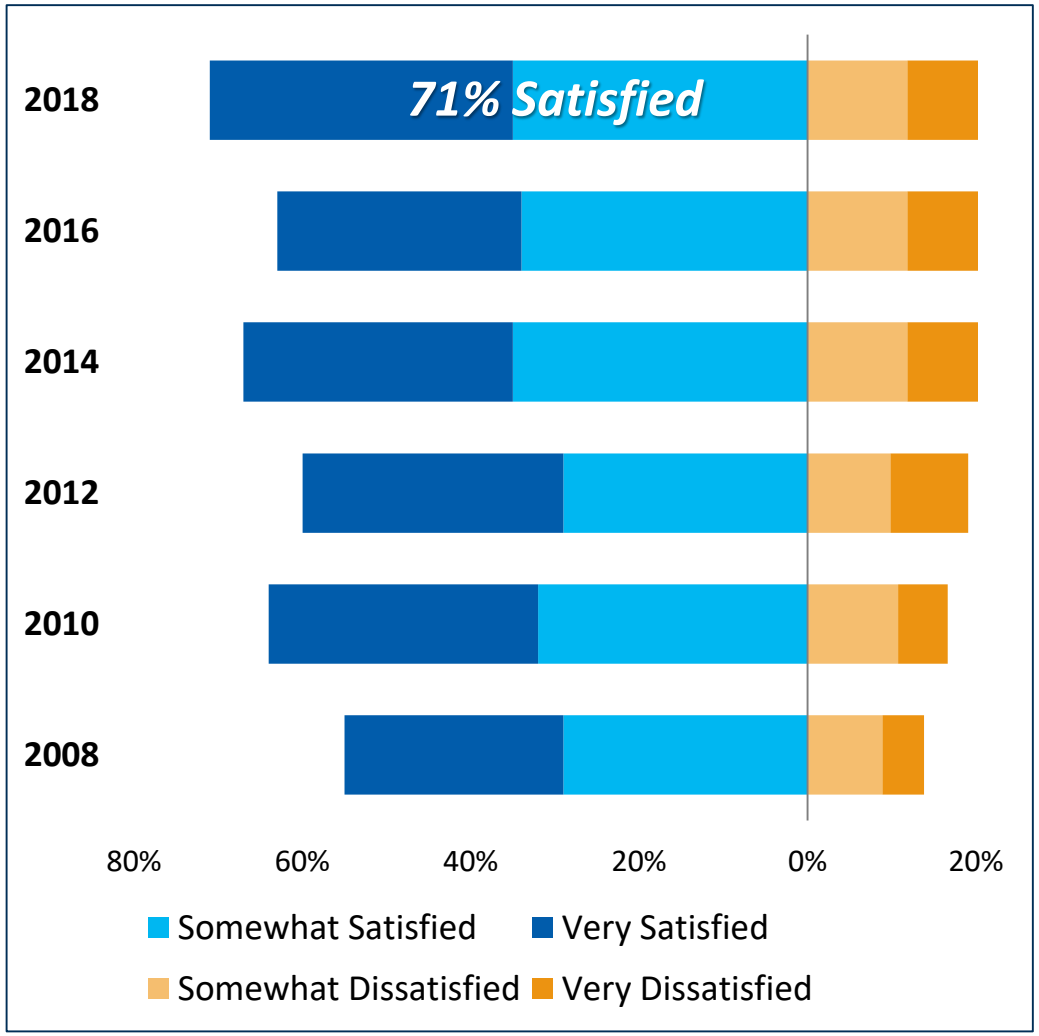
Water Pipe Condition

Sewer Pipe Condition

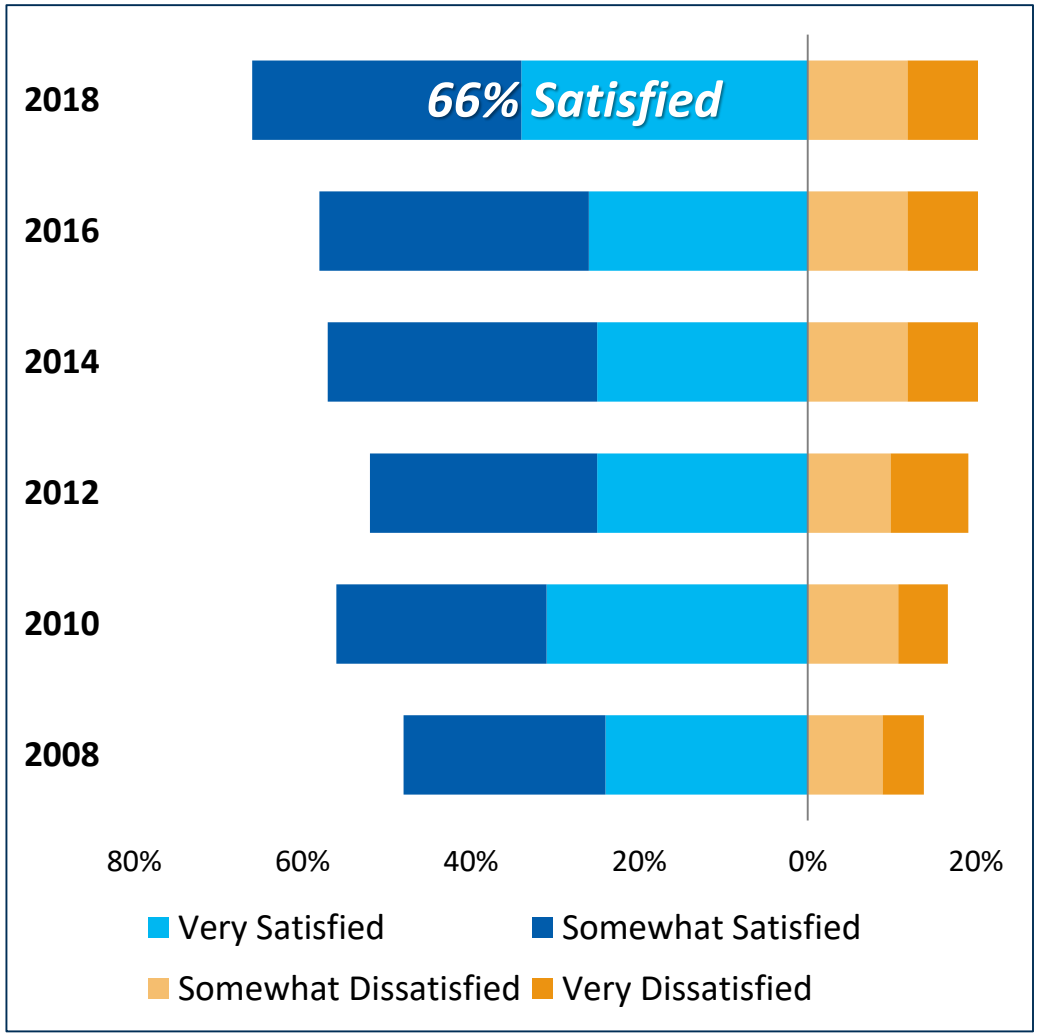


Customer Satisfaction on Effectiveness

Repair Leaks



Respond to Overflows



Rate Approv

A rate hike will be needed to replace the aging preliminary treatment facility at Albuquerque's sewage plant, officials say.

Aging Pipes Mean Higher Water Bills

Rate Hikes Proposed To Fix Area's Aging Infrastructure

By John Fleck
Journal Staff Writer

Albuquerque's water and sewer utility, facing hundreds of millions of dollars in costs over the next decade to replace aging pipes and treatment plants, is considering a series of rate increases in the next five years.

When the last of the proposed rate hikes takes effect, the average residential customer's bill would rise to $54 per month, up from $45 today, according to Mark Sanchez, executive director of the Albuquerque Bernalillo County Water Utility Authority — an additional $108 per year for the average customer by 2017.

More than 400 miles of metro area water and sewer pipe are at high risk of failure, according to a study done for the water utility and the backlog of aging pipes that need replacement is growing because of inadequate

See AGING on PAGE A3

Albuquerque's sewage treatment plant is in need of $250 million worth of work.

By the numbers

$45 per month
Current average Albuquerque water and sewer bill

$54 per month
Estimated average bill in 2017, after increases

3,000
Miles of water pipe

95
Miles of water pipe at high risk of failure

2,400
Miles of sewer pipe

326
Miles of sewer pipe at high risk of failure

Source: ABCWUA

Higher rates a fair price for H20 conservation

Take away the hit to the wallet and accounting blunder, and it could be called a nice problem to have.

Customers of the Albuquerque Bernalillo County Water Utility Authority have achieved a 10-year conservation goal in less than a year — from 148 gallons per person per day a year ago to a projected 135 this year, when 135 was the long-term water conservation goal to be reached by 2024.

Unfortunately, the flip side of less water going out is less money coming in. And so the utility is seeking an unplanned 5 percent rate increase not only to keep pace with operational costs, but to chip away at a $383 million backlog of water and sewer line maintenance work.

While a $9 million accounting error and 2012-13 financial reports that have yet to be published make for easy criticism, the bottom line is unchanged: less water going out, less money coming in, largely fixed operating costs that don't fluctuate with the amount of water delivered, more infrastructure aging proposed increase amounts to an extra $3 a m average homeowners and is sandwiched in 5 percent rate increases last July and in 201

Critics say the utility hasn't sought routine es to keep pace with inflation, adequately fac the conservation trend or provided enough t ency in its financial difficulties. These are a tant issues the utility will have to grapple wi forward — even though predicting conserv as much art/luck as it is science, and depe wide range of things including what kind of r season we have.

But there is no question the utility has a infrastructure, that leaks are becoming m mon, that repairs done before a line breaks s and money for everyone involved.

Sure, nobody likes the bitter pill of rate increa adequately maintaining water and sewer infrastru is an essential investment in any good metropolitan area. The fact the utility has pushed hard on conservation, and Albuquerque/Bernalillo County water customers have done such a great job responding, mea at least there's plenty of water to take that medicine.

Water rates could rise for third summer

Water Utility Authority board will review proposed increase in water and sewer rates

BY OLLIE REED JR.
JOURNAL STAFF WRITER

Consumers are facing their third consecutive summer of water/sewer rate hikes if a proposal up for review at tonight's meeting of the Albuquerque Bernalillo County Water Utility Authority board ultimately wins approval.

No final action is scheduled for tonight's meeting, which convenes at 5 p.m. at the city/county government center. But if the board approves the increase at its June 17

purpose.

Morris said an estimated pass-through charge would amount to about 4 cents per unit for every customer. That would come to 24 cents

Sure, nobody likes the bitter pill of rate increases. But adequately maintaining water and sewer infrastructure is an essential investment in any good metropolitan area.

Water rate hikes inevitable and necessary for system

It's pennies to dollars, but either way Albuquerque-area water customers face higher bills again, despite a stellar track record of increased conservation and lower usage.

A couple of rate increases are on the table. One is a previously announced 5 percent hike that would raise a typical homeowner's monthly bill by slightly more than $4 during the winter and nearly $5 in summer.

Albuquerque Bernalillo County Water Utility Authority consumers at one point were told — and likely forgot — that it was coming. It is the second of a three-part rate hike plan pre-approved in 2013 to raise revenues so the utility can replace and upgrade its infrastructure. It's a fact. Underground pipes wear out.

Also last year, the utility board OK'd another rate increase to make up for decreased consumer usage. Conservation is important, but a certain revenue level is re

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5% water rate hike approved

Change will cost the typical ABQ homeowner an extra $3 a month

R Uyttebrouck
Writer

efforts to save
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ss of revenue,
lbuquerque's
oard to approve
e hike Wednes-
p the agency's

ill cost the typi-
r an additional
sing the average
r bill to about
when the rate
effect July 1.
increase was
a 6-1 vote, with
er and Albu-
cillor Rey Gar-
the lone vote in

said the rate
ld allow the util-
ase spending on
ojects.

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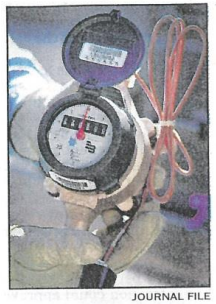
Everybody hates to see rate increases, but I think because of our aging infrastructure, that's something that we need to do at this time," said board chairwoman Klarissa Peña, who is an Albuquerque city councilor.



JOURNAL FILE

The city-county water board on Wednesday approved a rate hike intended to compensate for a drop in consumption.

ity could have avoided a rate increase by anticipating the drop in consumption.

"There are folks who can't afford this," he said. "We could have planned this a little sooner."

Customers also saw a 5 percent rate hike last July 1.

Utility officials told board members the rate hike is needed to compensate for a 9 percent drop in water consumption over the past year by customers of the Albuquerque

Wrap Up

It is Important to Consider the Triple Bottom Line of Benefits

Doing So..

..Helps Sustain the Program

..Shows the Public and Elected Leaders That Investment in AM is Worth It

..Shows the Employees that Their Efforts are Succeeding

It is Important to Collect Data to Determine the Benefits

Start before you implement activities

Don’t just rely on intuition

Communicate the Benefits

We Need to Think About Both Monetary and Non-Monetary Benefits

Non-monetary benefits include:

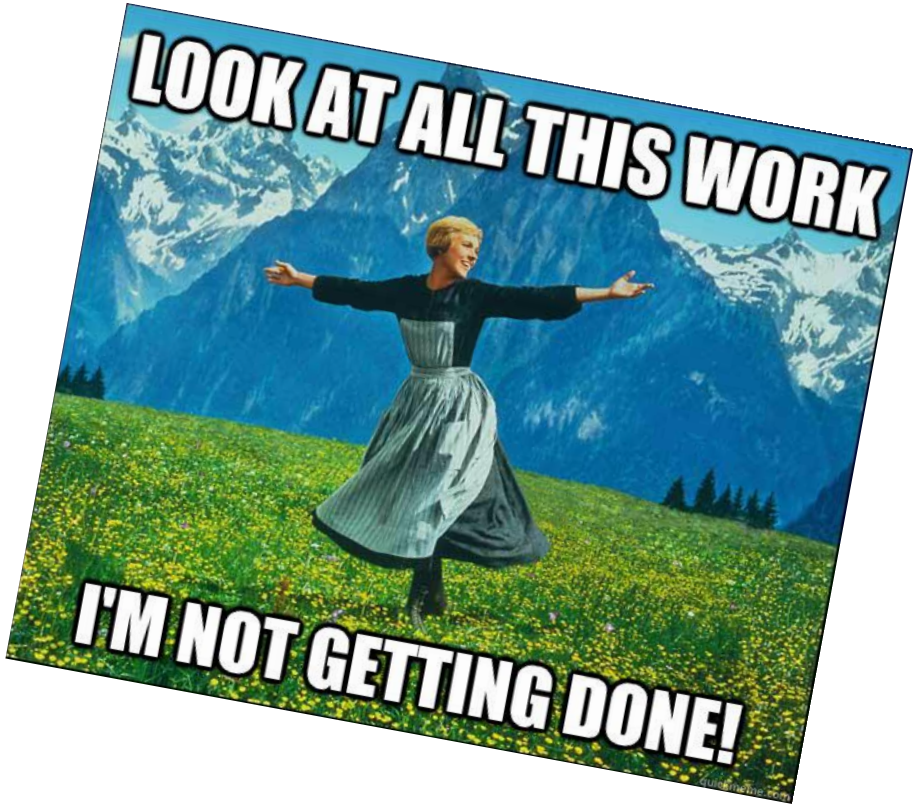
- Environmental
- Social

It is not easy to put a dollar figure on these types of benefits, so they need to be described in qualitative terms

Achieving monetary benefits is about allowing you to spend the additional time or money on other important activities, not about cutting rates

There are always a lot of other activities that need to be done for which there are insufficient resources

Think about what are the activities you don’t get to do right now?



Think About Your Answer to the Question:

What would I do if I had an extra $1,000? $10,000? $100,000? $1,000,000?

Or: What would I do if I had an extra 2 hours per week? 500 hours per year? 1,000 hours per year?

The data to monetize benefits is not always easy to come by initially.

We don’t collect data in this manner

It takes time and effort to do this.

It isn’t something we’ve been including as a routine part of the work

But, this type of data can be collected in the future.

Think about what type of data would be helpful

Think about where and how to store the data, and who will do this

Think about the analysis that can be done and who to share it with.

What Are Some Reasons to Track and Report the Benefits of AM?

Support From Elected Leaders to Continue Asset Management. Why Would They Continue to Fund a Program if They Don't Know if It is Beneficial?

Support From Customers Because They Understand That Their Money is Being Well-Spent and Their Utility Well-Operated

More Satisfied Employees Knowledge that Your Activities Make a Difference

Share the benefits widely

Asset Management Resource Switchboard

https://swefcamswitchboard.unm.edu/

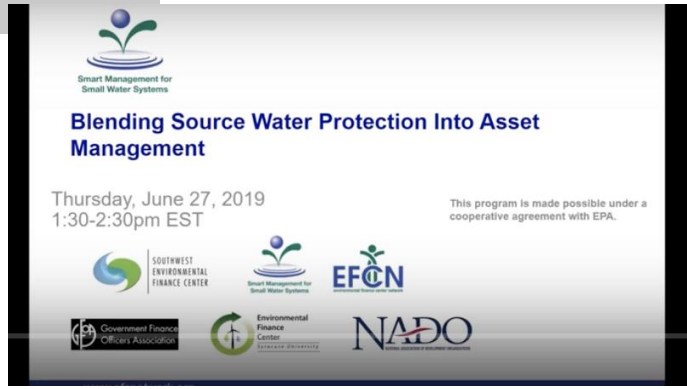
Submitted Questions (Some We Will Reach Out Individually. Others Included Here)

How to convince decision makers, employees to do asset management? How to get them to understand the importance of Asset Management?

How are energy benefits of asset management measured?

How can a small system realistically expect to use and measure asset management? Is there a minimum size for asset management to be cost-effective or feasible?

Strategies for including source water protection in asset management?



Submitted Questions (Some We Will Reach Out Individually. Others Included Here)

Are we ready to take on asset management as we are updating financial, fixed asset schedule, GIS, work orders, inventory?

Some type of template water utilities can follow to conduct preliminary assessment of their needs?

http://southwestefc.unm.edu/asset-management-iq/

Asset management leads to performance metrics for field operations. What performance metrics apply to asset managers themselves?

Several questions revolved around asset inventory software

Submitted Questions (Some We Will Reach Out Individually. Others Included Here)

Role of CMMS with Asset Management & integrating AM and CMMS with GIS Mapping.

How does asset management fit in the sustainability discussion?

Is Change Management good to use with the deployment of Asset Management?

Other Questions?

CONTACT INFORMATION

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